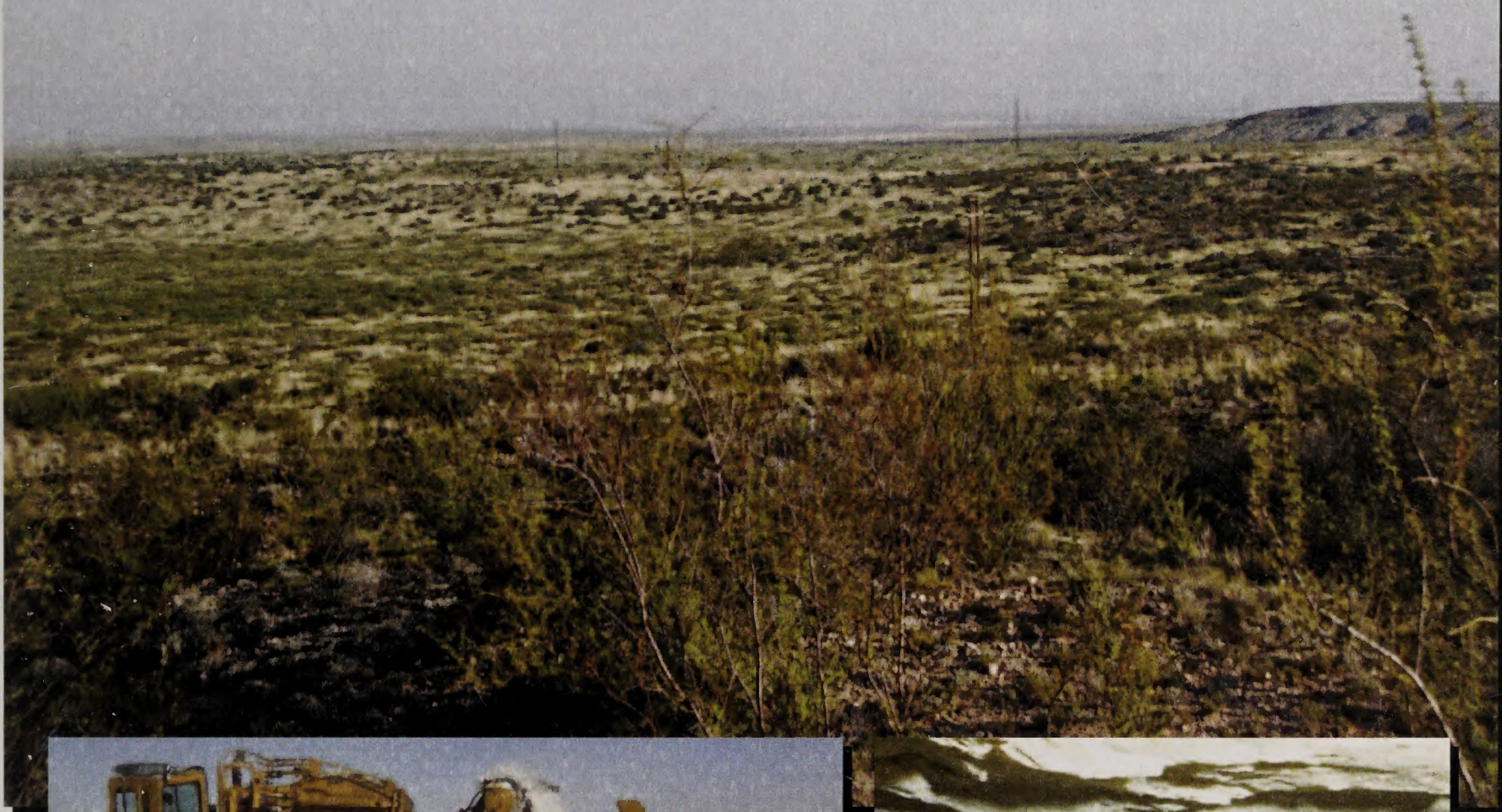


HB In-Situ Solution Mine Project Final Environmental Impact Statement

Appendices A – D



Carlsbad Field Office, New Mexico

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BLM Mission Statement

The Bureau of Land Management is responsible for stewardship of our public lands. The BLM is committed to manage, protect and improve these lands in a manner to serve the needs of the American people. Management is based upon the principles of multiple use and sustained yield of our nation's resources within a framework of environmental responsibility and scientific technology. These resources include recreation, rangelands, timber, minerals, watershed, fish and wildlife habitat, wilderness, air and scenic quality, as well as scientific and cultural values.

Cover photo captions:

- Top photo: View from Tower Hill looking north to the location of proposed evaporation ponds.
- Lower left: Harvesting potash precipitated from evaporation ponds. *Courtesy of Intrepid Potash.*
- Lower right: Ore pillar crushing out after second mining completed. Ore in the crushed out pillar is the primary ore target for the solution mine. *Courtesy of Intrepid Potash.*

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HB In-Situ Solution Mine Project EIS

BLM Carlsbad

Appendix A

Guidance for Managing the Secretary's Potash Area

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1.0 Introduction

This appendix includes the full versions of the Order of the Secretary of the Interior (51 FR 39425, Oct. 28, 1986), called the 1986 Order, Order R-111-P issued by the New Mexico Oil Conservation Commission, and BLM guidance for management of the SPA, in that order.

The 1986 Order defines the Secretary's Potash Area, otherwise called the Known Potash Leasing Area, and is the guiding authority for governing BLM decisions regarding oil, gas, and potash leasing and development.

Order R-111-P was issued by the State of New Mexico's Oil Conservation Commission, which is under the Energy, Minerals, and Natural Resources Department. The order was issued on April 21, 1988, to amend previous orders related to management of the Known Potash Leasing Area to clarify overlapping leasehold interests and "confusion recording the boundaries of the Known Potash Leasing Area."

BLM Instruction Memorandum No. NM-2011-003 was issued on October 1, 2010, to provide guidance on the processing of oil and gas applications for permits to drill within the SPA. These interim guidelines will guide BLM decisions on issuing permits until completion of a review of potash enclave standards and an economic evaluation of potash grades have been completed.

DEPARTMENT OF THE INTERIOR

Office of the Secretary

Oil, Gas and Potash Leasing and Development Within the Designated Potash Area of Eddy and Lea Counties, New Mexico

Order

Section 1. *Purpose.* This order revises the rules for concurrent operations in prospecting for, development and production of oil and gas and potash deposits owned by the United States within the designated Potash Area and for revising the designated Potash Area to which the provisions of this Order are applicable.

Section 2. *Authority.* This order is issued in accordance with the authority vested in the Secretary of the Interior in the Mineral Leasing Act of 1920, as amended and supplemented (30 U.S.C. 181 *et seq.*) and the Mineral Leasing Act for Acquired Land of 1947, as amended (43 U.S.C. 351-359).

Section 3. Restatement of Rules for Concurrent Operations in Prospecting for, Development and Production of Oil and Gas and Potash Deposits Owned by the United States within the Designated Potash Area and to Revise the Designated Potash Area as follows:

I

The Order of the Secretary of the Interior dated February 6, 1939 (4 FR 1012), withholding certain lands in New Mexico from application or lease under the provisions of the Mineral Leasing Act of February 25, 1920, as amended and supplemented (30 U.S.C. 181 *et seq.*), which Order was revoked by Order of the Secretary of the Interior dated October 16, 1951 (16 FR 10669), shall continue to be revoked. The lands described in the Order of February 6, 1939 (except the E1/2E½, W½SE¼, sec. 25, T. 20 S., R. 20E, New Mexico Principal Meridian, which were withdrawn from all forms of entry by Public Land Order No. 569 (14 FR 1086)), which were opened for oil and gas leasing by the Order of October 16, 1951, shall continue to be open for oil and gas leasing. This Order shall not affect the current status of lands within respect to their being withdrawn from, or open for, entry or leasing.

II

Subject to the provisions of I above, the provisions of the Order of the Secretary of the Interior dated November 5, 1975 (40 FR 51486), are revised to change the Potash Area Designated therein as specified in this Order.

III. General Provisions

A. Issuance of Oil and Gas Leases

The Department of the Interior reaffirms its position that the lease stipulations contained in the Order of November 5, 1975, adequately protect the rights of the oil and gas and potash lessees and operators. Therefore, each successful applicant for a noncompetitive oil and gas lease, and any party awarded a competitive lease, for lands included in the designated Potash Area is required, as a condition to the issuance of such lease, to execute a stipulation to the lease as follows:

1. Drilling for oil and gas shall be permitted only in the event that the lessee establishes to the satisfaction of the authorized officer, Bureau of Land Management, that such drilling will not interfere with the mining and recovery of potash deposits, or the interest of the United States will best be served by permitting such drilling.

2. No wells shall be drilled for oil or gas at a location which, in the opinion of the authorized officer, would result in undue waste of potash deposits or constitute a hazard to or unduly interfere with mining operations being conducted for the extraction of potash deposits.

3. When the authorized officer determines that unitization is necessary for orderly oil and gas development and proper protection of potash deposits, no well shall be drilled for oil or gas except pursuant to a unit plan approved by the authorized officer.

4. The drilling or the abandonment of any well on said lease shall be done in accordance with applicable oil and gas operating regulations (43 CFR 3160), including such requirements as the authorized officer may prescribe as necessary to prevent the infiltration of oil, gas or water into formations containing potash deposits or into mines or workings being utilized in the extraction of such deposits.

In taking any action under Part A, Items 1, 2, 3 and 4 of this Order, the authorized officer shall take into consideration the applicable rules and regulations of the Oil Conservation Division of the State of New Mexico.

B. Renewal or Extension of Oil and Gas Leases

As a condition to the granting of any discretionary renewal or extension of any existing lease embracing lands included in the designated Potash Area, the lessee shall execute a stipulation identical to that specified in Part A, Items 1, 2, 3 and 4 of this Order.

C. Potash Leases

All potash permits and leases hereafter issued or existing potash leases hereafter renewed for Federal lands within the designated Potash Area, shall be subject to a requirement either to be included in the lease or permit or imposed as a stipulation, to the effect that no mining or exploration operations shall be conducted that, in the opinion of the authorized officer, will constitute a hazard to oil or gas production, or that will unreasonably interfere with orderly development and production under any oil or gas lease issued for the same lands.

D. Mineable Reserves

1. Each potash lessee shall file annually by January 1, with the District Manager, Bureau of Land Management, a map(s) on which has been delineated the following information with respect to the Federal Potash leases which are then held:

a. The areas where active mining operations are currently in progress in one or more ore zones;

b. The area where operations have been completed in one or more ore zones;

c. Those areas that are not presently being mined which are considered to contain a mineable reserve in one or more ore zone, i.e., those areas (enclaves) where potash ore is known to exist in sufficient thickness and quality to be mineable under existing technology and economics; and

d. The areas within these enclaves which are believed to be barren of commercial ore.

The authorized officer shall review the information submitted in this regard and make any revisions in the boundaries or the proposed mineable reserves (potash enclaves) which are consistent with the data available at the time of such analyses. The authorized officer shall commit the initial findings to a map(s) of suitable scale and shall thereafter revise that map(s) as necessary to reflect the latest available information.

E. Oil and Gas Drilling

1. It is the policy of the Department of the Interior to deny approval of most applications for permits to drill oil and gas test wells from surface locations within the potash enclaves established in accordance with Part D, item 1 of this Order. Two exceptions to this policy shall be permitted under the following conditions.

a. Drilling of vertical or directional holes shall be allowed from barren areas within the potash enclaves when

the authorized officer determines that such operations will not adversely affect active or planned mining operations in the immediate vicinity of the proposed drillsite;

b. Drilling of vertical or directional holes shall be permitted from a drilling island located within a potash enclave when: (1) There are no barren areas within the enclave or drilling is not permitted on the established barren area(s) within the enclave because of interference with mining operations; (2) the objective oil and gas formation beneath the lease cannot be reached by a well which is vertically or directionally drilled from a permitted location within the barren area(s); or (3) in the opinion of the authorized officer, the target formation beneath a remote interior lease cannot be reached by a well directionally drilled from a surface location outside the potash enclave. Under these circumstances, the authorized officer shall establish an island within the potash enclave from which the drilling of that well and subsequent wells will be permitted. The authorized officer, in establishing any such island, will, consistent with present directional drilling capabilities, select a site which shall minimize the loss of potash ore. No island shall be established within one mile of any area where approved mining operations will be conducted within three years. To assist the authorized officer in this regard, he/she may require affected potash mining operators to furnish a three-year mining plan.

2. In order to protect the equities between oil and gas lessees, while at the same time reducing the number of oil and gas wells which operators propose to drill in the Potash Area, the authorized officer shall make greater use of his/her prerogative to require unitization pursuant to the regulations in 43 CFR 3180. Unitization shall be mandatory in those cases where completion of the proposed well as a producer might result in the drainage of oil and gas from beneath other Federal lands within a potash enclave. This unitization will be a prerequisite to the approval of any well which is: (1) Located adjacent to a potash enclave (within one-quarter of a mile if an oil test well or one-half mile if a gas test well) and which is to be drilled vertically to the prospective formation; (2) to be directionally drilled from an adjacent surface location to bottom in a formation beneath an enclave; or (3) to be vertically or directionally drilled from a barren area or island within an enclave. Any unit plan hereafter approved or prescribed that includes oil

and gas leases covered by this Order shall include a provision embodying in substance the requirements set forth in Part A, items, 1, 2, 3 and 4 of this Order.

3. The Department of the Interior shall cooperate with the New Mexico Oil Conservation Division in the implementation of that agency's rules and regulations. In that regard, the Federal potash lessees shall continue to have the right to protest to the New Mexico Oil Conservation Division the drilling of a proposed oil and gas test on Federal lands provided that the location of said well is within the State of New Mexico's "Oil-Potash Area" as that area is delineated by New Mexico Oil Conservation Division Order No. R-111, as amended. However, the Department shall exercise its prerogative to make the final decision of whether to approve the drilling or any proposed well on a Federal oil and gas lease within the Potash Area.

4. Applications for permits to drill vertical test wells for oil and gas at locations that are in the Potash Area but outside the State of New Mexico's "Oil-Potash Area" and which do not directly offset an enclave (within one-quarter mile if an oil test well or one-half mile if a gas test well) shall be routinely processed by the authorized officer.

F. Access to Maps and Surveys

1. Well records and survey plats that an oil and gas lessee is required to file pursuant to applicable operating regulations (43 CFR 3160), shall be available for inspection at the Roswell District Office, Bureau of Land Management, by any party holding a potash permit or lease on the lands on which the well is situated insofar as such records are pertinent to the mining and protection of potash deposits.

2. Maps of mine workings and surface installations and records of core analyses that a potash lessee is required to file pursuant to applicable operating regulations (43 CFR 3570), shall be available for inspection at the Roswell District Office, Bureau of Land Management, by any party holding an oil and gas lease on the same lands insofar as such records are pertinent to the development and protection of oil and gas deposits.

3. Maps of potash enclaves shall be available for inspection in the Roswell District Office and Carlsbad Resource Area, Bureau of Land Management. Copies of such maps shall be available at the same offices.

G. Definition

The term "potash" as used in this Order shall be deemed to embrace potassium and associated minerals as

specified in the Act of February 27, 1927 (30 U.S.C. 281-287).

IV

The lessee of any existing lease in the designated Potash Area may make such lands subject to the rules and regulations of Part III of this Order by filing an election to do so, in duplicate, with the New Mexico State Office, Bureau of Land Management, Santa Fe, New Mexico. Except to the extent modified by this Order, the general regulations contained in 43 CFR Parts 3100, 3160 and 3180 (governing the leasing and development of potash deposits) and 43 CFR Group 3500 (governing the leasing and development of potash deposits), shall be applicable to the lands covered by this Order.

V. The designated Potash Area is as follows

New Mexico Principal Meridian

T 22 S., R. 28 E.,
Secs. 25 and 36.
T. 23 S., R. 28 E.,
Sec. 1.
T. 19 S., R. 29 E.,
Secs. 1 and 2;
Secs. 11 to 15 inclusive;
Secs. 22 to 27 inclusive;
Secs. 34 and 36.
T. 20 S., R. 29 E.,
Secs. 1 and 2;
Secs. 11 to 15 inclusive;
Secs. 22 to 27 inclusive;
Secs. 34 and 36 inclusive.
T. 21 S., R. 29 E.,
Secs. 1 to 5 inclusive;
Secs. 10 to 15 inclusive;
Secs. 22 to 27 inclusive;
Secs. 34 and 36 inclusive.
T. 22 S., R. 29 E.,
Secs. 1 to 5 inclusive;
Secs. 8 to 17 inclusive;
Secs. 19 to 36 inclusive.
T. 23 S., R. 29 E.,
Secs. 1 to 17 inclusive;
Secs. 21 to 28 inclusive;
Secs. 33 to 36 inclusive.
T. 24 S., R. 29 E.,
Secs. 1 to 4 inclusive.
T. 18 S., R. 30 E.,
Secs. 8 to 17 inclusive;
Secs. 20 to 29 inclusive;
Secs. 32 to 36 inclusive.
T. 19 S., R. 30 E.,
T. 20 S., R. 30 E.,
T. 21 S., R. 30 E.,
T. 22 S., R. 30 E.,
T. 23 S., R. 30 E.,
T. 24 S., R. 30 E.,
Secs. 1 to 18 inclusive.
T. 19 S., R. 31 E.,
Secs. 7, 18;
Secs. 31 to 36 inclusive.
T. 20 S., R. 31 E.,
T. 21 S., R. 31 E.,
T. 22 S., R. 31 E.,
T. 24 S., R. 31 E.,
Secs. 1 to 18 inclusive;
Secs. 35 and 36.

T. 25 S., R. 31 E.,
Secs. 1 and 2.
T. 19 S., R. 32 E.,
Secs. 25 to 28 inclusive;
Secs. 31 to 36 inclusive.
T. 20 S., R. 32 E.,
T. 21 S., R. 32 E.,
T. 22 S., R. 32 E.,
Secs. 1 to 12 inclusive.
T. 19 S., R. 33 E.,
Secs. 21 and 36 inclusive.
T. 20 S., R. 33 E.,
T. 21 S., R. 33 E.,
T. 22 S., R. 33 E.,
Secs. 1 to 12 inclusive.
T. 19 S., R. 34 E.,
Secs. 19 and 20;
Secs. 29 to 32 inclusive.
T. 20 S., R. 34 E.,
Secs. 3 and 10 inclusive;
Secs. 15 and 36 inclusive.
T. 21 S., R. 34 E.,
Secs. 5 to 8 inclusive;
Secs. 17 to 20 inclusive;
Secs. 29 to 32 inclusive.
T. 22 S., R. 34 E.,
Sec. 6.
The area described, including public and non-public lands, aggregates 497,002.03 acres, more or less.

Section 4. *Administrative Provisions.* The Director, Bureau of Land Management, is authorized to delegate responsibilities herein as are determined appropriate.

Section 5. *Effective Date.* This Order is effective immediately.

Dated: October 21, 1986.

Donald Paul Hodel,
Secretary of the Interior.

[FR Doc. 86-24314 Filed 10-27-86; 8:45 am]

BILLING CODE 4310-10-M

Bureau of Land Management

[I-21104]

Idaho; Realty Action, Sale of Public Land in Power County

AGENCY: Bureau of Land Management, Idaho, Interior.

ACTION: Notice of Realty Action, Sale of Public Land in Power County, Idaho.

DATE AND ADDRESS: The sale offering will be held on Wednesday, January 14, 1987, at 2:00 p.m. at Deep Creek Resource Area Office, 138 South Main, Malad City, Idaho 83252.

SUMMARY: The following described land has been examined and through the public-supported land use planning process have been determined to be suitable for disposal by sale pursuant to section 203 of the Federal Land Policy and Management Act of 1976, at no less than fair market value as determined by an appraisal:

Parcel	Legal description	Fair market value	Sale type
I-21104	T. 10 S., R. 33 E., B.M.; Sec. 17, Ne¼SE¼, SW¼ (10 acres).	\$2,000	Direct.

When patented, the lands will be subject to the following reservations:

Parcel	Reservations
I-21104	Ditches and canals, oil and gas to U.S.

Continued use of the land by valid right-of-way holders is proper subject to the terms and conditions of the grant. Administrative responsibility previously held by the United States will be assumed by the patentee.

The previously described lands are hereby segregated from appropriation under the public land laws including the mining laws for a period of 270 days or until patent is issued, whichever comes first.

Sale Procedures

Sale parcel I-21104 is being offered directly to Luther Estep because of his past inadvertent use of the parcel.

Fair market value must be submitted and will constitute an application to purchase that portion of the mineral estate of no known value for the parcel. A thirty percent (30%) deposit must be submitted and an additional \$50,000 non-returnable mineral conveyance processing fee is required. The filing fee and deposit must be paid by certified check, money order, bank draft, or cashiers check. Submittal will be rejected if accompanied by a personal check.

SUPPLEMENTARY INFORMATION: Detailed information concerning the conditions of the sale can be obtained by contacting Wes Duggan at (208) 766-4766 or Karl Simonson at (208) 678-5514.

For a period of 45 days from the date of publication of this notice in the *Federal Register*, interested parties may submit comments to the District Manager, Bureau of Land Management, Rt. 3, Box 1, Burley, Idaho 83318. Objections will be reviewed by the State Director who may sustain, vacate, or modify this realty action. In the absence of any objections, this realty action will become the final determination of the Department of Interior.

Dated: October 20, 1986.

John Davis,
District Manager, Burley.

[FR Doc. 86-24263 Filed 10-27-86; 8:45 am]

BILLING CODE 4310-GG-M

[NM-060-07-4322-02]

Roswell District Grazing Advisory Board; Meeting

AGENCY: Bureau of Land Management, Interior.

ACTION: Roswell District Grazing Advisory Council Meeting.

SUMMARY: This notice sets forth the schedule and proposed agenda of a forthcoming meeting of the Roswell District Grazing Advisory Board.

DATE: Tuesday, November 25, 1986, beginning at 10 a.m. A public comment period will be held following the last agenda item.

Location: BLM Roswell District Office, 1717 West Second St., Roswell, NM 88201.

FOR FURTHER INFORMATION CONTACT: David L. Mari, Associate District Manager, or Guadalupe Martinez, Public Affairs Specialist, Bureau of Land Management, P.O. Box 1397, Roswell, NM 88201, (505) 622-9042.

SUPPLEMENTARY INFORMATION: The proposed agenda will include: (1) Carlsbad RMP Completion; (2) Statewide Road Policy; (3) BLM/FS Land Exchange; (4) Status of FY 86 Range Improvement Projects; (5) Status of FY Range Improvement Projects; (6) Range Improvement Task Force (expenditure of 8100 funds); (7) Operation Respect; (8) Animal Damage Control Plan. The meeting is open to the public. Interested persons may make oral statements to the Council during the public comment period or may file written statements. Anyone wishing to make an oral statement should notify the Associate District Manager by November 14, 1986. Summary minutes will be maintained in the District Office and will be available for public inspection during regular business hours within 30 days following the meeting. Copies will be available for the cost of duplication.

Francis R. Cherry, Jr.,

District Manager.

[FR Doc. 86-24265 Filed 10-27-86; 8:45 am]

BILLING CODE 4310-FB-M

[Alaska AA-48414-CG]

Alaska; Proposed Reinstatement of a Terminated Oil and Gas Lease

In accordance with Title IV of the Federal Oil and Gas Royalty Management Act (Pub. L. 97-451), a petition for reinstatement of oil and gas lease AA-48414-CG has been received covering the following lands:

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPT.
OIL CONSERVATION COMMISSION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO. 9316
Order No. R-111-P

APPLICATION OF THE OIL CONSERVATION
DIVISION UPON ITS OWN MOTION TO
REVISE ORDER R-111, AS AMENDED, PERTAINING
TO THE POTASH AREAS OF EDDY AND LEA
COUNTIES, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:00 a.m. on
February 18, 1988, at Santa Fe, New Mexico, before the Oil
Conservation Commission of New Mexico, hereinafter referred to
as the "Commission."

NOW, on this 21st day of April, 1988, the Commission,
a quorum being present, having considered the testimony
presented and the exhibits received at said hearing, and being
fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the
subject matter thereof.

(2) Order R-111-A was entered July 14, 1955, and since
that time no amendments have been entered, except amendments
to Exhibit "A" attached thereto, despite significant advances
in drilling technology and practices.

(3) Operation under Order R-111-A has become virtually
unworkable because of 1) the lack of tolerance on the part of
both oil/gas and potash industries in regarding the activities
of the other industry in areas where leasehold interests are
overlapping and 2) confusion recording the boundaries of the
known Potash Leasing Area (KPLA) established by the U.S.
Bureau of Land Management (BLM) and the R-111-A area as
amended by Orders R-111-B through O.

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Case No. 9316
Order No. R-111-P

CO The then Director of the Oil Conservation Division (OCD) by memorandum dated March 21, 1986 convened a study committee of volunteer representatives from the oil and potash industries and other interested parties.

(5) The committee met May 29, September 25-26, and November 13-14 (field trip) in 1986 and on March 19, 1987.

(6) By committee agreement a work committee was formed from the larger committee consisting of three members and one alternate from each industry and this work committee was chaired by the OCD Chief Petroleum Engineer and charged with the responsibility to develop proposed amendments to Order R-111-A. It met on April 30, May 1, July 23-24 and November 23, 1987.

(7) Each meeting of the work committee was held in the presence of representatives of both BLM and OCD; and at its final meeting November 23, 1987 an agreement was reached and signed by the committee members present, which agreement is attached hereto as Exhibit "B", for the purpose of providing background information and acknowledging the consensus reached by representatives of the Oil and Gas and Potash industries relating to the multiple use of resources in the potash area.

(8) Exhibit "B" is regarded by the Commission as a report of both the work committee and the full study committee since a draft copy of a nearly identical agreement was furnished to each member of the study committee for comment, and comments received thereon were addressed at the final meeting.

(9) The agreement represents a compromise by both industries, the potash operators relinquishing lower grade marginal or uneconomic ore deposits in order to more fully protect their higher grade ore deposits; and the oil/gas operators receiving such lands containing sub-economic ore deposits as prospective drill-sites.

(10) The Oil and Gas Act, 70-2-3 F NMSA 1978, declares as waste "drilling or producing operations for oil or gas within any area containing commercial deposits of potash where such operations would have the effect unduly to reduce the total quantity of such commercial deposits of potash which may reasonably be recovered -- or where such operations would interfere unduly with the orderly commercial development of such potash deposits".

(11) The Oil and Gas Act in 70-2-12 B(17) empowers the Division "to regulate and, where necessary, prohibit drilling

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Case No. 9316

Order No. R-111-P

or producing operations for oil and gas" in areas which would cause waste as described in 70-2-3 F.

(12) The report of the work committee presents a reasonable process for determining where wells for oil and gas would cause waste of potash and the pertinent portions of said report should be contained in the order as a reasonable process for prohibiting oil and gas drilling in such areas in the absence of substantial evidence that waste of potash as described by the statute would not result.

(13) Release of methane into potash mine workings would endanger the lives of miners and would render further mining activities uneconomic because of the additional, and more expensive safety requirements which would be imposed by the Mine Safety and Health Administration (MSHA) of the U.S. Department of Labor.

(14) Salt and potash deposits are essentially non-porous and impermeable but are inter-bedded with clay seams which, in an undisturbed state are porous but of extremely low permeability.

(15) Primary mining activity creates minor localized disturbance but secondary mining causes subsidence of the overburden the effects of which tend to expand beyond the mined out area a distance approximately equal to the depth of the mined area.

(16) During the drilling of wells for oil and gas, measures should be taken to protect the salt-protection casing from internal pressures greater than the designed burst resistance plus a safety factor so as to prevent any possible entry of methane into the salt and potash interval.

(17) A proposed revision of Order R-111-A was presented at the hearing and comments were received thereon both orally at the hearing and in writing subsequent to the hearing, the record being held open for two weeks subsequent to the hearing, as announced by the Chairman.

(18) Testimony and comments both in support and in opposition to the proposed revision of the order were received at the hearing and subsequent thereto, some pointing out that the number of oil or gas wells which could be drilled under the terms of the committee report would be reduced but no comments addressed the possible waste of potash as a result of additional drilling.

(19) One member of the work committee from the potash industry testified the proposed revision of Order R-111-A failed to prohibit drilling in the commercial ore areas and was therefore contrary to the work committee report and the Oil and Gas Act.

(20) The Commission cannot abdicate its discretion to consider applications to drill as exceptions to its rules and orders but in the interest of preventing waste of potash should deny any application to drill in commercial potash areas as recommended in the work committee report, unless a clear demonstration is made that commercial potash will not be wasted unduly as a result of the drilling of the well.

(21) Confusion can be reduced and efficiencies can be obtained by making the area covered by Order R-111 coterminous with the KPLA as determined by the BLM, and the area should be expanded and contracted by the regular pool nomenclature procedure rather than by separate hearings and further revisions of Order R-111.

(22) Expansion of the R-111 area to coincide with the KPLA will bring under the purview of this order areas where potash is either absent or non-commercial and such areas should be granted less stringent casing, cementing and plugging requirements, at the discretion of the OCD district supervisor.

(23) The proposed revision of Order R-111-A will permit the drilling of wells for oil or gas in areas previously not available for such drilling and will prevent waste of potash, and further, will serve to reduce confusion and uncertainty in the conduct of operations by both the potash and oil/gas industries, all to the benefit of the state and its citizens.

IT IS THEREFORE ORDERED THAT:

This order shall be known as The Rules and Regulations Governing the Exploration and Development of Oil and Gas in Certain Areas Herein Defined, Which Are Known To Contain Potash Reserves.

A. OBJECTIVE

The objective of these Rules and Regulations is to prevent waste, protect correlative rights, assure maximum conservation of the oil, gas and potash resources of New Mexico, and permit the economic recovery of oil, gas and potash minerals in the area hereinafter defined.

B. THE POTASH AREA

(1) The Potash Area, as described in Exhibit A attached hereto and made a part hereof, represents the area in various parts of which potash mining operations are now in progress, or in which core tests indicate commercial potash reserves. Such area is coterminous with the Known Potash Leasing Area (KPLA) as determined by the U.S. Bureau of Land Management (BLM).

(2) The Potash Area, as described in Exhibit "A" may be revised by the Division after due notice and hearing at the regular pool nomenclature hearings, to reflect changes made by BLM in its KPLA.

C. DRILLING IN THE POTASH AREA

(1) All drilling of oil and gas wells in the Potash Area shall be subject to these Rules and Regulations.

(2) No wells shall be drilled for oil or gas at a location which, in the opinion of the Division or its duly authorized representative, would result in undue waste of potash deposits or constitute a hazard to or interfere unduly with mining of potash deposits.

No mining operations shall be conducted in the Potash Area that would, in the opinion of the Division or its duly authorized representative, constitute a hazard to oil or gas production, or that would unreasonably interfere with the orderly development and production from any oil or gas pool.

(3) Upon discovery of oil or gas in the Potash Area, the Oil Conservation Division may promulgate pool rules for the affected area after due notice and hearing in order to address conditions not fully covered by these rules and the general rules.

(4) The Division's District Supervisor may waive the requirements of Sections D and F which are more rigorous than the general rules upon satisfactory showing that a location is outside the Life of Mine Reserves (LMR) and surrounding buffer zone as defined hereinbelow and that no commercial potash resources will be unduly diminished.

(5) AM encounters with flammable gas, including hydrogen sulfide, during drilling operations shall be reported immediately to the appropriate OCD District office followed by a written report of same.

D. DRILLING AND CASING PROGRAM

(1) For the purpose of the regulations and the drilling of wells for oil and gas, shallow and deep zones are defined as follows:

(a) The shallow zone shall include all formations above the base of the Delaware Mountain Group or, above a depth of 5,000 feet, whichever is lesser.

(b) The deep zone shall include all formations below the base of the Delaware Mountain Group or, below a depth of 5,000 feet, whichever is lesser.

(c) For the purpose of identification, the base of the Delaware Mountain Group is hereby identified as the geophysical log marker found at a depth of 7485 feet in the Richardson and Bass No. 1 Rodke well in Section 27, Township 20 South, Range 31 East, NMPM, Eddy County, New Mexico.

(2) Surface Casing String:

(a) A surface casing string of new or used oil field casing in good condition shall be set in the "Red Bed" section of the basal Rustler formation immediately above the salt section, or in the anhydrite at the top of the salt section, as determined necessary by the regulatory representative approving the drilling operations, and the cement shall be circulated to the surface.

(b) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(c) Casing and water-shut-off tests shall be made both before and after drilling the plug and below the casing seat as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole, and if the

hole does not remain dry for a period of one hour, corrective measures shall be applied.

(d) The above requirements for the surface casing string shall be applicable to both the shallow and deep zones.

(3) Salt Protection String:

(a) A salt protection string of new or used oil field casing in good condition shall be set not less than one hundred (100) feet nor more than six hundred (600) feet below the base of the salt section; provided that such string shall not be set below the top of the highest known oil or gas zone. With prior approval of the OCD District Supervisor the wellbore may be deviated from the vertical after completely penetrating Marker Bed No. 126 (USGS) but that section of the casing set in the deviated portion of the wellbore shall be centralized at each joint.

(b) The salt protection string shall be cemented, as follows:

(i) For wells drilled to the shallow zone, the string may be cemented with a nominal volume of cement for testing purposes only. If the exploratory test well is completed as a productive well, the string shall be re-cemented with sufficient cement to fill the annular space back of the pipe from the top of the first cementing to the surface or to the bottom of the cellar, or may be cut and pulled if the production string is cemented to the surface as provided in sub-section D (5)(a)(i) below.

(ii) For wells drilled to the deep zone, the string must be cemented with sufficient cement to fill the annular space back of the pipe from the casing seat to the surface or to the bottom of the cellar.

(c) If the cement fails to reach the surface or the bottom of the cellar, where required, the top of the cement shall be located by a temperature, gamma ray or other survey and additional cementing shall be done until the cement is brought to the point required.

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Case No. 9316
Order No. R-111-P

(d) The fluid used to mix with the cement shall be saturated with the salts common to the zones penetrated and with suitable proportions but not less than 1% of calcium chloride by weight of cement.

(e) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(f) Casing tests shall be made both before and after drilling the plug and below the casing seat, as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of one thousand (1000) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(g) The Division, or its duly authorized representative, may require the use of centralizers on the salt protection string when in their judgment the use of such centralizers would offer further protection to the salt section.

(h) Before drilling the plug a drilling spool installed below the bottom blowout preventer or the wellhead casing outlet shall be equipped with a rupture disc or other automatic pressure-relief device set at 80% of the API-rated burst pressure of new casing or 60% of the API-rated burst pressure of used casing. The disc or relief device should be connected to the rig choke manifold system so that any flow can be controlled away from the rig. The disc or relief device shall remain installed as long as drilling activities continue in the well until the intermediate or production casing is run and cemented.

(i) The above requirements for the salt protection string shall be applicable to both the shallow and deep zones except for sub-section D (3) (b) (i) and (ii) above.

(4) Intermediate String:

(a) In drilling wells to the deep zone for oil or gas, the operator shall have the option of running an intermediate string of pipe, unless the Division requires an intermediate string be run.

(b) Cementing procedures and casing tests for the intermediate string shall be the same as provided under sub-sections D (3) (c), (e) and (f) for the salt protection string.

(5) Production String:

(a) A production string shall be set on top or through the oil or gas pay zone and shall be cemented as follows:

(i) For wells drilled to the shallow zone the production string shall be cemented to the surface if the salt protection string was cemented only with a nominal volume for testing purposes, in which case the salt protection string can be cut and pulled before the production string is cemented; provided, that if the salt protection string was cemented to the surface, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone.

(ii) For wells drilled to the deep zone, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone; provided, that if no intermediate string shall have been run and cemented to the surface, the production string shall be cemented to the surface.

(b) Cementing procedures and casing tests for the production string shall be the same as provided under sub-section D (3) (c), (e) and (f) for the salt protection string; however if high pressure oil or gas production is discovered in an area, the Division may promulgate the necessary rules to prevent the charging of the salt section.

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Order No. R-111-P

both potash and oil and gas interests. Applications to drill outside the LMR will be approved as indicated below; provided there is no protest from potash lessee within 20 days of his receipt of a copy of the notice:

- (a) a shallow well shall be drilled no closer to the LMR than one-fourth (1/4) mile or 110% of the depth of the ore, whichever is greater.
- (b) A deep well shall be drilled no closer than one-half (1/2) mile from the LMR.

H. INSPECTION OF DRILLING AND MINING OPERATIONS

A representative of any potash lessee within a radius of one mile from the well location may be present during drilling, cementing, casing, and plugging of any oil or gas wells to observe conformance with these regulations. Likewise, a representative of the oil and gas lessee may inspect mine workings on his lease to observe conformance with these regulations.

I. FILING OF WELL SURVEYS, MINE SURVEYS AND POTASH DEVELOPMENT PLANS

(1) Directional Surveys:

The Division may require an operator to file a certified directional survey from the surface to a point below the lowest known potash-bearing horizon on any well drilled within the Potash Area.

(2) Mine Surveys:

Within 30 days after the adoption of this order and thereafter on or before January 31st of each year, each potash operator shall furnish the Division two copies of a plat of a survey of the location of his leaseholdings and all of his open mine workings, which plat shall be available for public inspection and on a scale acceptable to the Division.

J. APPLICABILITY OF STATEWIDE RULES AND REGULATIONS

All general statewide rules and regulations of the Oil Conservation Division governing the development, operation, and production of oil and gas in the State of New

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Case No. 9316

Order No. R-111-P

Mexico not inconsistent or in conflict herewith, are hereby adopted and made applicable to the areas described herein.

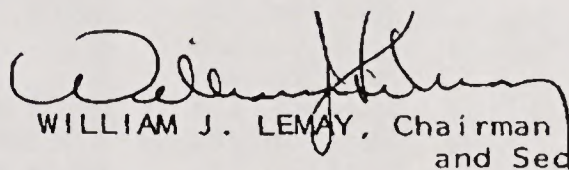
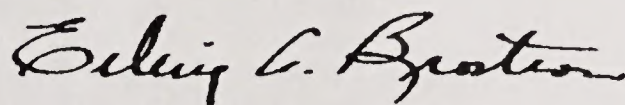
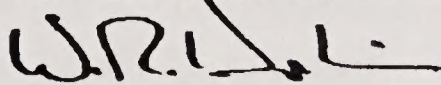
IT IS FURTHER ORDERED THAT:

(1) Order R-111 and amendments through R-111-O are hereby rescinded.

(2) Jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

Done at Santa Fe, New Mexico on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



WILLIAM J. LEMAY, Chairman
and Sec

EXHIBIT "A"
CASE 9316
ORDER R-111-P

CONSOLIDATED LAND DESCRIPTION OF THE KNOWN POTASH
LEASING AREA, AS OF FEBRUARY 3, 1988

EDDY COUNTY, NEW MEXICO

TOWNSHIP 18 SOUTH, RANGE 30 EAST, NMPM

Section 10: SE/4 SE/4
Section 11: S/2 SW/4
Section 13: W/2 SW/4 and SE/4 SW/4
Section 14: W/2 NE/4, NW/4 and S/2
Section 15: E/2 NE/4, SE/4 SW/4 and SE/4
Section 22: N/2, N/2 SW/4, SE/4 SW/4 and SE/4
Section 23: All
Section 24: N/2 NW/4, SW/4 NW/4 and NW/4 SW/4
Section 26: NE/4, N/2 NW/4 and SE/4 NW/4
Section 27: N/2 NE/4 and NE/4 NW/4

TOWNSHIP 19 SOUTH, RANGE 29 EAST, NMPM

Section 11: SE/4 SE/4
Section 12: SE/4 NE/4 and S/2
Section 13: All
Section 14: NE/4, SE/4 NW/4 and S/2
Section 15: SE/4 SE/4
Section 22: NE/4, E/2 W/2 and SE/4
Section 23: All
Section 24: All
Section 25: NW/4 NW/4
Section 26: N/2 NE/4 and NW/4
Section 27: NE/4 and E/2 NW/4

TOWNSHIP 19 SOUTH RANGE 30 EAST, NMPM

Section 2: SW/4
Section 3: W/2 SW/4, SE/4 SW/4, S/2 SE/4 and
NE/4 SE/4
Section 4: Lots 3 and 4. SW/4 NE/4, S/2 NW/4
and S/2
Section 5: Lots 1, 2. and 3, S/2 NE/4.
S/2 NW/4 and S/2
Section 6: S/2 SE/4 and NE/4 SE/4
Sections 7 to 10 inclusive
Section 11: S/2 NE/4, NW/4 NW/4 and S/2
Section 12: NE/4, S/2 NW/4 and S/2
Section 13: NE/4, W/2, N/2 SE/4 and SW/4 SE/4
Sections 14 to 18 inclusive
Section 19: Lots 1, 2, and 3, NE/4, E/2 NW/4,
NE/4 SW/4, E/2 SE/4 and
NW/4 SE/4
Sections 20 to 23 inclusive
Section 24: NW/4. NW/4 SW/4 and S/2 SW/4

EXHIBIT "A" con'd

Section 25: NW/4 NW/4
Section 26: NE/4 NE/4, W/2 NE/4, W/2, W/2 SE/4
and SE/4 SE/4
Section 27: Al I
Section 28: Al I
Section 29: E/2, E/2 NW/4 and NW/4 NW/4
Section 32: E/2 and SE/4 SW/4
Section 33 to 35 inclusive
Section 36: NW/4 NW/4, S/2 NW/4 and S/2

TOWNSHIP 19 SOUTH, RANGE 31 EAST, NMPM

Section 7: Lots 1, 2, and 3 and E/2 NW/4
Section 18: Lots 1, 2, and 3 and SW/4 NE/4,
E/2 NW/4 and NE/4 SW/4
Section 31: Lot 4
Section 34: SE/4 SE/4
Section 35: S/2 SW/4 and SW/4 SE/4
Section 36: S/2 SE/4

LEA COUNTY. NEW MEXICO

TOWNSHIP 19 SOUTH, RANGE 32 EAST, NMPM

Section 31: Lot 4
Section 33: Lots 1 to 4 inclusive and N/2 S/2
Section 34: Lots 1 to 4 inclusive and N/2 S/2
Section 35: Lots 1 to 4 inclusive and N/2 S/2
Section 36: Lots 1 to 4 inclusive, SE/4 NE/4,
NW/4 SW/4 and NE/4 SE/4

TOWNSHIP 19 SOUTH, RANGE 33 EAST, NMPM

Section 22: SE/4 NE/4, E/2 SW/4 and SE/4
Section 23: S/2 NW/4, SW/4, W/2 SE/4 and
SE/4 SE/4
Section 25: SW/4 NW/4, W/2 SW/4 and SE/4 SW/4
Section 26: Al I
Section 27: Al I
Section 28: S/2 SE/4 and NE/4 SE/4
Section 30: Lots 2 to 4 inclusive, S/2 NE/4,
SE/4 NW/4, E/2 SW/4 and SE/4
Section 31: Al I
Section 32: NE/4, S/2 NW/4 and S/2
Sections 33 to 35 inclusive
Section 36: W/2 NE/4, SE/4 NE/4, NW/4 and S/2

TOWNSHIP 19 SOUTH, RANGE 34 EAST, NMPM

Section 31: Lots 3 and 4

EDDY COUNTY. NEW MEXICO

TOWNSHIP 2() SOUTH, RANGE 29 EAST, NMPM

Section 1: SE/4 NE/4 and E/2 SE/4
 Section 13: SW/4 NW/4, W/2 SW/4 and SE/4 SW/4
 Section 14: NW/4 NE/4, S/2 NE/4, NW/4 and S/2
 Section 15: E/2 E/2, SE/4 SW/4 and W/2 SE/4
 Section 22: E/2 and E/2 NW/4
 Section 23: All
 Section 24: SW/4 NE/4, W/2, W/2 SE/4 and
 SE/4 SE/4
 Section 25: N/2, SW/4, W/2 SE/4 and NE/4 SE/4
 Section 26: All
 Section 27: E/2
 Section 34: NE/4
 Section 35: N/2
 Section 36: W/2 NE/4 and NW/4

TOWNSHIP 20 SOUTH, RANGE 30 EAST, NMPM

Sections 1 to 4 inclusive
 Section 5: Lots 1 to 3 inclusive, S/2 N/2
 and S/2
 Section 6: Lots 5, 6, and 7, S/2 NE/4, E/2 SW/4
 and SE/4
 Section 7: Lots 1 and 2. E/2 and E/2 NW/4
 Sections 8 to 17 inclusive
 Section 18: E/2
 Section 19: E/2 and SE/4 SW/4
 Sections 20 to 29 inclusive
 Section 30: Lots 1 to 3 inclusive, E/2 and
 E/2 W/2
 Section 31: NE/4 and E/2 SE/4
 Sections 32 to 36 inclusive

TOWNSHIP 20 SOUTH, RANGE 31 EAST. NMPM

Section 1: Lots 1 to 3 inclusive, S/2 N/2
 and S/2
 Section 2: All
 Section 3: Lots 1 and 2, S/2 NE/4 and SE/4
 Section 6: Lots 4 to 7 inclusive, SE/4 NW/4,
 E/2 SW/4, W/2 SE/4 and
 SE/4 SE/4
 Section 7: All
 Section 8: S/2 N/2 and S/2
 Section 9: S/2 NW/4, SW/4, W/2 SE/4 and
 SE/4 SE/4
 Section 10: E/2 and SW/4
 Sections 11 to 36 inclusive

LEA COUNTY, NEW MEXICO

TOWNSHIP 20 SOUTH, RANGE 32 EAST, NMPM

Sections 1 to 4 inclusive

Section 5: S/2 SE/4

Section 6: Lots 4 to 7 inclusive, SE/4 NW/4,
E/2 SW/4 and SW/4 SE/4

Sections 7 to 36 inclusive

TOWNSHIP 20 SOUTH, RANGE 33 EAST, NMPM

Sections 1 to 36 inclusive

TOWNSHIP 20 SOUTH, RANGE 34 EAST, NMPM

Section 6: Lots 3 to 7 inclusive, SE/4 NW/4,
E/2 SW/4, W/2 SE/4 and
SE/4 SE/4

Section 7: All

Section 8: SW/4, S/2 NW/4, W/2 SE/4 and
SE/4 SE/4

Section 16: W/2 NW/4, SE/4 NW/4, SW/4 and
S/2 SE/4

Sections 17 to 21 inclusive

Section 22: N/2 NW/4, SW/4 NW/4, SW/4, W/2 SE/4,
and SE/4 SE/4

Section 26: SW/4, W/2 SE/4 and SE/4 SE/4

Sections 27 to 35 inclusive

Section 36: SW/4 NW/4 and W/2 SW/4

EDDY COUNTY, NEW MEXICO

TOWNSHIP 21 SOUTH, RANGE 29 EAST, NMPM

Sections 1 to 3 inclusive

Section 4: Lots 1 through 16, NE/4 SW/4 and
SE/4

Section 5: Lot 1

Section 10: N/2 NE/4, SE/4 NE/4 and SE/4 SE/4

Sections 11 to 14 inclusive

Section 15: E/2 NE/4 and NE/4 SE/4

Section 23: N/2 NE/4

Section 24: E/2, N/2 NW/4 and SE/4 NW/4

Section 25: NE/4 NE/4 and S/2 SE/4

Section 35: Lots 2 to 4 inclusive, S/2 NE/4,
NE/4 SW/4 and N/2 SE/4

Section 36: Lots 1 to 4 inclusive, NE/4,
E/2 NW/4 and N/2 S/2

TOWNSHIP 21 SOUTH, RANGE 30 EAST, NMPM

Sections 1 to 36 inclusive

TOWNSHIP 21 SOUTH, RANGE 31 EAST, NMPM
Sections 1 to 36 inclusive

LEA COUNTY, NEW MEXICO

TOWNSHIP 21 SOUTH, RANGE 32 EAST, NMPM

Sections 1 to 27 inclusive

Section 28: N/2 and N/2 S/2

Sections 29 to 31 inclusive

Section 32: NW/4 NE/4, NW/4 and NW/4 SW/4

Section 34: N/2 NE/4

Section 35: N/2 N/2

Section 36: E/2. N/2 NW/4, SE/4 NW/4 and
NE/4 SW/4

TOWNSHIP 21 SOUTH, RANGE 33 EAST, NMPM

Section 1: Lots 2 to 7 inclusive, Lots 10 to
14 inclusive. N/2 SW/4 and
SW/4 SW/4

Sections 2 to 11 inclusive

Section 12: NW/4 NW/4 and SW/4 SW/4

Section 13: N/2 NW/4, S/2 N/2 and S/2

Sections 14 to 24 inclusive

Section 25: N/2. SW/4 and W/2 SE/4

Sections 26 to 30 inclusive

Section 31: Lots 1 to 4 inclusive, NE/4,
E/2 W/2, N/2 SE/4 and
SW/4 SE/4

Section 32: N/2 and NW/4 SW/4

Section 33: N/2

Section 34: NE/4, N/2 NW/4 and E/2 SE/4

Section 35: All

Section 36: W/2 NE/4, NW/4 and S/2

TOWNSHIP 21 SOUTH, RANGE 34 EAST, NMPM

Section 17: W/2

Section 18: All

Section 19: Lots 1 to 4 inclusive, NE/4,
E/2 W/2. N/2 SE/4 and
SW/4 SE/4

Section 20: NW/4 NW/4

Section 30: Lots 1 and 2 and NE/4 NW/4

Section 31: Lots 3 and 4

EDDY COUNTY. NEW MEXICO

TOWNSHIP 22 SOUTH, RANGE 28 EAST, NMPM

Section 36: E/2 E/2

TOWNSHIP 22 SOUTH, RANGE 29 EAST, NMPM

Sections 1 and 2 inclusive
Section 3 SE/4 SW/4 and SE/4
Section 9 S/2 NE/4 and S/2
Sections 10 to 16 inclusive
Section 17 S/2 SE/4
Section 19 SE/4 NE/4 and E/2 SE/4
Sections 20 to 28 inclusive
Section 29 N/2 N/2, S/2 NE/4 and SE/4
Section 30 NE/4 NE/4
Section 31 Lots 1 to 4 inclusive, S/2 NE/4,
E/2 W/2 and SE/4
Sections 32 to 36 inclusive

TOWNSHIP 22 SOUTH, RANGE 30 EAST, NMPM

Sections 1 to 36 inclusive

TOWNSHIP 22 SOUTH, RANGE 31 EAST, NMPM

Sections 1 to 11 inclusive
Section 12: NW/4 NE/4, NW/4 and NW/4 SW/4
Section 13: S/2 NW/4 and SW/4
Sections 14 to 23 inclusive
Section 24: W/2
Section 25: NW/4
Section 26: NE/4 and N/2 NW/4
Sections 27 to 34 inclusive

LEA COUNTY, NEW MEXICO

TOWNSHIP 22 SOUTH, RANGE 32 EAST, NMPM

Section 1: Lot 1
Section 6: Lots 2 to 7 inclusive and SE/4 NW/4

TOWNSHIP 22 SOUTH, RANGE 33 EAST, NMPM

Section 1: Lots 1 to 4 inclusive, S/2 N/2 and
N/2 S/2
Section 2: All
Section 3: Lot 1, SE/4 NE/4 and SE/4
Section 6: Lot 4
Section 10: NE/4
Section 11: NW/4 NE/4 and NW/4

TOWNSHIP 22 SOUTH, RANGE 34 EAST, NMPM

Section 6: Lots 4 to 6 inclusive

EDDY COUNTY, NEW MEXICO

TOWNSHIP 23 SOUTH, RANGE 28 EAST, NMPM

Section 1: Lot 1

TOWNSHIP 23 SOUTH, RANGE 29 EAST, NMPM

Sections 1 to 5 inclusive

Section 6: Lots 1 to 6 inclusive, S/2 NE/4,
SE/4 NW/4, E/2 SW/4 and SE/4

Section 7: NE/4 and NE/4 NW/4

Section 8: N/2, N/2 SW/4, SE/4 SW/4 and SE/4

Sections 9 to 16 inclusive

Section 17: NE/4 and E/2 SE/4

Sections 21 to 23 inclusive

Section 24: N/2, SW/4 and N/2 SE/4

Section 25: W/2 NW/4 and NW/4 SW/4

Section 26: All

Section 27: All

Section 28: N/2, N/2 SW/4, SE/4 SW/4 and SE/4

Section 33: N/2 NE/4 and NE/4 NW/4

Section 34: NE/4, E/2 NW/4, NW/4 NW/4,
NE/4 SW/4 and SE/4

Section 35: All

Section 36: W/2 NE/4, NW/4 and N/2 SW/4

TOWNSHIP 23 SOUTH, RANGE 30 EAST, NMPM

Sections 1 to 18 inclusive

Section 19: N/2, N/2 SW/4, SE/4 SW/4 and SE/4

Section 20: All

Section 21: All

Section 22: N/2, S/2 SW/4, N/2 S/2 and SE/4 SE/4

Sections 23 to 25 inclusive

Section 26: E/2, SE/4 NW/4 and SW/4

Section 27: N/2 NW/4, SW/4 NW/4, SE/4 SW/4,
S/2 SE/4 and NE/4 SE/4

Section 28: N/2 and SW/4

Section 29: N/2 and SE/4

Section 30: N/2 NE/4

Section 32: N/2 NE/4

Section 33: SE/4 NE/4, N/2 NW/4, NE/4 SE/4
and S/2 SE/4

Sections 34 to 36 inclusive

TOWNSHIP 23 SOUTH, RANGE 31 EAST, NMPM

Section 2: Lot 4, SW/4 NW/4 and W/2 SE/4

Sections 3 to 7 inclusive

Section 8: NE/4 NE/4, W/2 NE/4 and W/2

Section 9: N/2 N/2

Section 10: NW/4 NW/4 and SE/4 SE/4

Section 11: S/2 NE/4, S/2 SW/4 and SE/4

Section 12: SW/4 NW/4 and SW/4
Section 13: SW/4 NE/4, W/2 and W/2 SE/4
Section 14: All
Section 15: E/2, SE/4 NW/4 and SW/4
Section 16: SW/4 and S/2 SE/4
Section 17: NW/4 and S/2
Sections 18 to 23 inclusive
Section 24: W/2 NE/4 and W/2
Section 25: W/2 NE/4, NW/4, N/2 SW/4 and
NW/4 SE/4
Sections 26 to 34 inclusive
Section 35: N/2 NW/4 and SW/4 NW/4

TOWNSHIP 24 SOUTH, RANGE 29 EAST, NMPM

Section 2: Lots 2 to 4 inclusive
Section 3: Lot 1

TOWNSHIP 24 SOUTH, RANGE 30 EAST, NMPM

Section 1: Lots 1 to 4 inclusive, S/2 N/2,
SW/4 and NW/4 SE/4
Section 2: All
Section 3: All
Section 4: Lots 1 and 2, S/2 NE/4, SE/4 NW/4,
SW/4 SW/4. E/2 SW/4 and SE/4
Section 9: N/2, N/2 SW/4, SE/4 SW/4 and SE/4
Section 10: All
Section 11: All
Section 12: W/2 NW/4 and NW/4 SW/4
Section 14: W/2 NE/4 and NW/4
Section 15: NE/4 and N/2 NW/4

TOWNSHIP 24 SOUTH, RANGE 31 EAST, NMPM

Section 3: Lots 2 to 4 inclusive, SW/4 NE/4,
S/2 NW/4, SW/4 and W/2 SE/4
Section 4: All
Section 5: Lots 1 to 4 inclusive, S/2 N/2,
N/2 S/2 and SE/4 SE/4
Section 6: Lots 1 to 6 inclusive, S/2 NE/4,
SE/4 NW/4, NE/4 SW/4 and
N/2 SE/4
Section 9: E/2 and NW/4
Section 10: W/2 NE/4 and W/2
Section 35: Lots 1 to 4 inclusive, S/2 N/2 and
N/2 S/2
Section 36: Lots 1 and 2, SW/4 NW/4 and N/2 SW/4

TOWNSHIP 25 SOUTH, RANGE 31 EAST, NMPM

Section 1: Lots 3 and 4 and S/2 NW/4
Section 2: Lots 1 to 4 inclusive and S/2 N/2

STATEMENT OF AGREEMENT BETWEEN
THE POTASH INDUSTRY AND OIL AND
GAS INDUSTRY ON CONCURRENT
OPERATIONS IN THE POTASH AREA
IN EDDY AND LEA COUNTIES, NEW MEXICO

Introduction

This Statement of Agreement sets forth the joint agreement of the Potash Industry and Oil and Gas Industry on important issues concerning the concurrent development of potash and oil and gas reserves in Eddy and Lea Counties, New Mexico. It represents the efforts of numerous representatives from each Industry over many months and is intended to resolve many of the disputes that have arisen as a result of concurrent oil and gas drilling activities in the vicinity of underground potash mining.

The parties recognize that this Agreement will not resolve all disputes or disagreements that may arise and that regulatory intervention may still be necessary in some instances. By entering into this Agreement, however, each industry recognizes the right of the other to develop its mineral resources in a safe and economical manner and acknowledges that concurrent development of multiple mineral resources places certain limits on each industry. Each also agrees that these limits can be better defined through good faith discussions among industry representatives familiar with industry technology and practices than repeated and prolonged litigation or administrative proceedings.

EXHIBIT "B"
CASE NO. 9316
ORDER NO. R-111-P

In attempting to accomplish this, each Industry has made concessions on issues considered critical to it in a good faith effort to obtain concessions from the other. For this reason, both Industries agree that the terms of this Statement of Agreement are subject to the following conditions:

1. Upon approval by representatives of each Industry, the terms of the Agreement will be submitted to and must be adopted without substantial change by the New Mexico Oil Conservation Commission ("OCC") in lieu of the current Order R-111A, as amended;
2. The terms of the Agreement will be submitted to and must be adopted without substantial change by the U. S. Department of Interior, Bureau of Land Management ("BLM") in lieu of Section III (E) of the Secretary of the Interior's Order of October 21, 1986 [51 Fed. Reg. 39425];
3. Each Industry will use its best efforts to secure approval of the terms of the Agreement from the OCC and BLM; and
4. In the event the terms in the Agreement are not adopted without substantial change by both the OCC and the BLM, this Statement of Agreement will become null and void and will not be referred to by any Industry representative on the Study Committee in any future proceeding before the OCC or BLM.

It is the intention of the parties to this Agreement that:

(1) certain areas of potash deposits, called "life-of-mine-reserves" or "LMR's," be permanently protected from oil and gas drilling activities; and (2) to make available for oil and gas drilling activities, certain areas within the Potash Area. The area of potash deposits protected will be determined in accordance with this Agreement but, generally speaking, will encompass the yellow, orange and a major portion of the blue

areas shown on the BLM Potash Resources Map as it existed on October 1, 1984. Areas in the Potash Area that will be available for oil and gas drilling activities will be those areas outside the designated LMR's which, generally speaking, will be the red, green, grey and a minor portion of the blue areas shown on the BLM Potash Resources Map as it existed on October 1, 1984, less areas designated as buffer zones by this Agreement.

I. The Potash Area

A. The Area covered by this Agreement shall be known as the "Potash Area".

B. The "Potash Area" includes those tracts of land in Southeastern New Mexico, from the surface downward, which are designated as a "potash area" by the Secretary of the Department of Interior in Section V of the Order dated October 21, 1986 and published in the Federal Register on October 28, 1986 [51 Fed. Reg. 39426]. It shall also include any subsequent revisions to such designations. The terms "potash" and "commercial deposits of potash" shall have the same meaning as assigned by the U. S. Department of Interior.

C. It is the intent of the parties to this Agreement that the "Potash Area" designated by the State of New Mexico be identical to that designated by the U. S. Department of Interior. Accordingly, if the "potash area" designated in the Secretarial Order of October 21, 1986 [51 Fed. Reg. 39425] is revised, the OCC, on its own motion after notice and hearing as

provided by applicable laws and regulations, will adopt the same revision.

II. Designation of Mine Reserves

A. Within ninety (90) days following adoption of this Agreement by the OCC and BLM and annually thereafter by January 31 if revised, each potash lessee, without regard to whether the lease covers State or Federal lands, shall file with the District Manager, BLM, a designation of the potash deposits considered by the potash lessee to be its life-of-mine reserves ("LMR"). For purposes of this Agreement, "life-of-mine reserves" means those potash deposits within the Potash Area reasonably believed by the potash lessee to contain potash ore in sufficient thickness and grade to be mineable using current day mining methods, equipment and technology. Information used by the potash lessee in identifying its LMR shall be filed with the BLM but will be considered privileged and confidential "trade secrets and commercial . . . information" within the meaning of 43 C.F.R. §2.13(c)(4) (1986) and not subject to public disclosure.

B. An authorized officer of the BLM shall review the information submitted by each potash lessee in support of its LMR designation and verify, upon request, that the data used by the potash lessee in establishing the boundaries of its LMR is consistent with data available to the BLM. Any disputes between the BLM and potash lessee concerning the boundary of a designated LMR shall be resolved in accordance with the

Department of Interior's Hearings and Appeals Procedures, 43 C.F.R. Part 4 (1986).

C. A potash lessee may amend its designated LMR by filing a revised designation with the BLM accompanied by the information referred to in Section A above. Such amendments must be filed by January 31 next following the date the additional data becomes available.

D. An authorized officer of the BLM shall commit the designated LMR of each potash lessee to a map(s) of suitable scale and thereafter revise the map(s) as necessary to reflect the latest amendments to any designated LMRs. These maps shall be considered privileged and confidential and exempt from disclosure under 43 C.F.R. Part 2 and will be used only for the purposes set forth in this Agreement.

III. Drilling in the Potash Area

A. All oil and gas wells drilled in the Potash Area after approval of this Agreement by the OCC and BLM, including those currently pending before the OCC and/or BUM, shall be subject to the terms of this Agreement.

B. It is the policy of the OCC and BLM to approve or deny applications for permits to drill (APD's) in the Potash Area in accordance with the following:

1. LMR and Buffer Zone. No oil or gas well shall be allowed from a surface location: (a) within the LMR of any potash lessee; (b) within one-fourth (1/4) mile, or a distance equal to the depth of the ore plus ten percent (10%), whichever is greater, of the LMR of any potash lessee; or (c) where the well casing will pass within one-fourth (1/4) mile, or a distance equal to

the depth of the ore plus ten percent (10%), whichever is greater, of the LMR of any potash lessee.

2. Outside Buffer Zone But Within One-Half (1/2) mile of LMR. An APD for an oil or gas well at a location more than one-fourth (1/4) mile, or a distance equal to the depth of the ore plus ten percent (10%), whichever is greater, but less than one-half (1/2) mile from the LMR of any potash lessee may be approved only if: (a) the bottom hole location does not extend below the base of the Delaware Mountain Group, and (b) the well is drilled in accordance with the cementing and casing requirements set forth in Section V.
3. More Than One-Half Mile But Less Than One Mile From LMR. An APD for an oil or gas well at a location more than one-half (1/2) mile but less than one mile from the LMR of any potash lessee may be approved regardless of the depth of the bottom hole location provided: (a) wells with bottom hole locations below the base of the Delaware Mountain Group are drilled in accordance with the cementing and casing requirements set forth in Section V of this Agreement, and (b) wells to bottom hole locations above the base of the Delaware Mountain Group may be drilled without regard to the requirements in Section V of this Agreement but must be drilled in accordance with then current Industry safety standards.
4. More Than One Mile From LMR. An APD for an oil or gas well at a location more than one mile from the LMR of any potash lessee may be approved regardless of the depth of the bottom hole location and without regard to the requirements of Section V of this Agreement.
5. Open Mine Workings. No oil or gas well shall be allowed from any location where the well casing will pass within one-fourth (1/4) mile or a distance equal to the depth of the ore plus ten percent (10%), whichever is greater, of any open mine workings.
6. Abandoned Mine Workings. No oil or gas well shall be allowed from any location where the well casing will pass through or within one-fourth (1/4) of a mile or a distance equal to the depth of the ore plus ten percent (10%), whichever is greater, of any abandoned mine workings that are connected to an existing mine by an opening or barrier of one-hundred (100) feet or less unless the APD is accompanied by the sealing and safety plan and certification described in Paragraph C below.

7. An APD for a directionally drilled oil or gas well to a bottom hole location underlying the LMR of any potash lessee may be approved subject to the limitations and requirements set forth in Paragraphs 1 - 6 above. Directionally drilled holes shall be drilled vertically until they have completely penetrated Marker Bed No. 126 (U.S.G.S.) of the Salado Formation at which time they may be deviated.

C. An oil and gas operator desiring to drill a well to a bottom hole location that does not extend below the base of the Delaware Mountain Group from a surface location where the well casing will pass through or within one-fourth (1/4) of a mile or a distance equal to the depth of the ore plus ten percent (10%), whichever is greater, of abandoned mine workings that are connected to an existing mine by any opening or a barrier of one-hundred (100) feet or less shall prepare and submit to all affected potash lessees a plan and program for sealing off the area to be penetrated from other mine workings. Approval of any such plan shall be in the sole discretion of the affected potash lessees. Any approved plan shall be attached by the oil and gas operator to the APD for filing with the OCC, and/or BLM. The oil and gas operator shall also complete a certification in the form prescribed by the OCC and/or BLM that the drilling of such well will not create a safety hazard to affected potash lessees.

D. It is the belief of both parties that the provisions of this Agreement eliminate the need for drilling islands and three-year mining plans and, therefore, both agree that no drilling islands will be established in the Potash Area and the filing of three-year mining plans will be eliminated.

IV. Location of Wells and Notice to Potash Lessee

A. The BLM, upon request, will advise oil and gas lessees of the surface locations where wells will be allowed to develop the leases. Oil or gas leases covering areas designated a LMR by a potash lessee will be unitized to the extent possible with other areas where drilling is allowed.

B. An oil or gas operator desiring to drill an oil or gas well in the Potash Area or within one (1) mile of a potash lease shall prepare and file an APD with the OCC and/or BLM along with a map or plat showing the location of the proposed well. One copy of the APD and map or plat shall be served by registered mail, return receipt requested, on all potash leaseholders within one (1) mile of the proposed well location. However, if the APD is for an oil or gas well that will penetrate abandoned mine workings, all potash leaseholders in the Potash Area shall be notified. Proof of such service shall be attached to the APD and filed with the OCC and/or BLM. Within twenty (20) days of service of an APD and required documents, any potash leaseholder within one (1) mile of the proposed well location (or any affected potash lessee if the proposed well will penetrate abandoned mine workings) may file an objection with the OCC to the proposed well. If the objections cannot be resolved by agreement of the parties, the matter shall be referred for hearing before the OCC.

C. The failure of a potash leaseholder to object to a well location or its agreement to the drilling locations

referred to in this Agreement shall not constitute a release of liability. Oil and gas leaseholders and those persons and/or entities involved in the development of the lease shall be responsible as provided by law for any damages caused by them to any person by the release of gases or liquids into the strata or atmosphere as a result of drilling activities.

V. Drilling and Casing Program

[Same as current R-111-A]

VI. Drilling Fluid for Salt Section

[Same as current R-111-A]

VII. Plugging and Abandonment of Wells

[Same as current R-111-A]

VIII. Filing of Well Surveys

The OCC may require an oil and gas operator to file a certified directional survey from the surface to a point below the lowest known potash bearing horizon on all wells drilled in the Potash Area. All encounters with flammable gases, including H_2S , shall be reported by the operator to the OCC.

IX. Additional Safety Requirements and Emergency Action

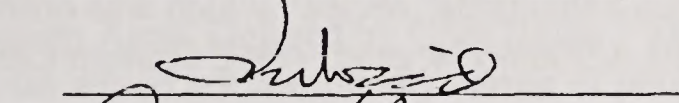
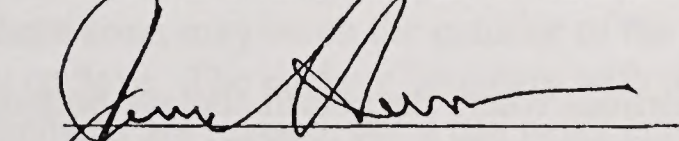
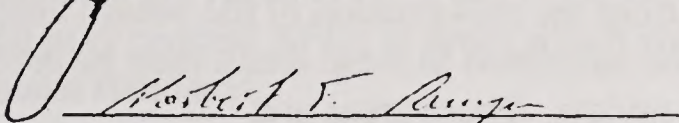
A. All oil and gas drilling activities within the Potash Area shall be performed using appropriate technology, equipment, and procedures to reduce the hazards of such activities to underground mines and miners and be conducted in accordance with the prudent operator standard.

B. Only the minimum number of wells necessary to develop an oil or gas lease will be allowed within the Potash Area.

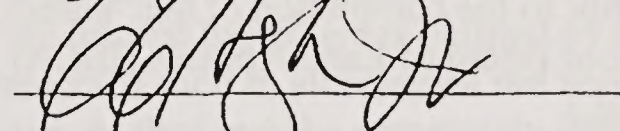
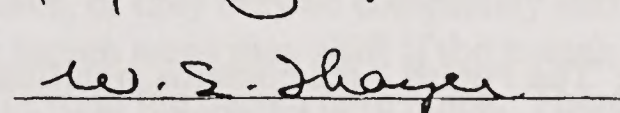
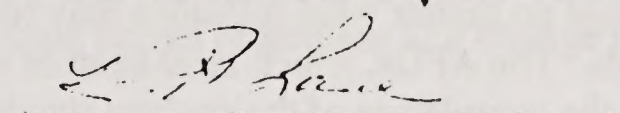
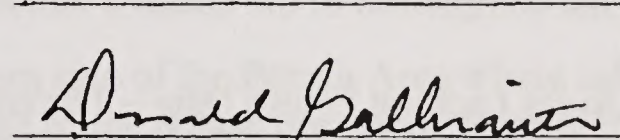
C. In the event the increased oil and gas drilling activities allowed by this Agreement result in a safety hazard or if data developed in the course of such increased activities make it reasonably appear that such activities are or will become a hazard to underground miners or mining activities, the BLM and/or OCC will, upon request, initiate proceedings in accordance with NMSA 70-2-23 and/or other applicable laws and regulations to review such data and take whatever emergency steps are found necessary to eliminate such hazard. Potash lessees may, in addition, initiate actions for injunctive relief under NMSA 70-2-29. The taking or failure to take such action by the OCC or any potash lessee shall not relieve the oil and gas lessee from liability for any damages caused by its oil and gas activities.

AGREED TO AND APPROVED THIS 23rd DAY OF November, 1987, BY THE FOLLOWING REPRESENTATIVES OF EACH INDUSTRY COMPRISING THE POTASH-OIL AREA SPECIAL RULES STUDY COMMITTEE:

For the Oil and Gas Industry:

For the Potash Industry:

1727L-7



IN REPLY REFER TO:

3160 (9220) I
3530

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

New Mexico State Office

P.O. Box 27115

Santa Fe, New Mexico 87502-0115

www.blm.gov/nm



October 1, 2010

EMS Transmission – 10/14/2010

Instruction Memorandum No. NM-2011-003

Expires: 09/30/2012

To: DM-Pecos and FM-Carlsbad

From: State Director

Subject: Interim Processing Guidelines, Oil and Gas Applications for Permit to Drill (APDs)
within the "Secretary's Designated Potash Area" (Potash Area), Carlsbad Field Office

Program Area: Onshore Oil and Gas Operations, 43 CFR 3160.

Purpose: This directive provides guidance concerning the processing of APDs in the Potash Area, prior to the completion of the "potash enclave standards" review, which was ordered by the Interior Board of Land Appeals (IBLA) in IBLA 2003-334, et al. (IMC Kalium Carlsbad, Inc., et al.).

Action: The Potash Area contains significant portions where the potash enclave boundary will not change no matter what revisions may result from the reevaluation of the potash enclave standards. The APDs, which have been or will be submitted in these areas, may be processed prior to the completion of the enclave standards review. These areas are:

- Areas Lacking Potash Data – The current enclave was projected ½ mile beyond the last data point which meets or exceeds the current potash thickness and quality standards. In the areas beyond this ½-mile zone, lowering or not changing the enclave standards would have no effect on the enclave boundary, and raising the standards would contract the enclave boundary. Therefore, you may process APDs in areas beyond the ½-mile zone, where no data points exist, in accordance with the current procedures.
- Area Between the Known Potash Leasing Area and the Potash Area – The majority of this area is classified as barren of potash due to the lack of data points, data points which are either barren of potash, or which indicate subeconomic potash. You may process APDs in this area as long as they are in an area which will not change whether the potash standards are raised or lowered.

When you receive an APD located within this area, you must first review available core data to confirm whether or not the core encountered only barren zones or subeconomic potash. If no core data exists or no potash was encountered in a core, you may process the APD. If subeconomic potash was encountered, you must defer the APD until after the enclave standards review is completed.

- Areas with a Low Density of Core Holes – The areas currently classified as “Indicated Potash Reserves” or “Inferred Potash Resources” are delineated as such due to the low density of data points. Changing the potash standard will not alter the Indicated or Inferred designations, since not enough data exists to define enclave, no matter what revisions may be made to the potash standard. Therefore, you may process APDs in Indicated and Inferred areas where the enclave boundary was not determined using one data point in “Measured Potash Reserves” and one data point located in either Indicated or Inferred areas.
- Mined-Out Areas – Areas exist where the potash enclave has been mined right up to the limits of ore. Even though the 1993 enclave map shows small quantities of enclave beyond the mine workings, no reasonable access exists to mine these areas by mechanical mining techniques. Therefore, you may process APDs in these areas as though no enclave exists, while considering potential safety hazards due to subsidence resulting from past mining operations.
- Barren Areas Defined by Core Holes – There are limited barren areas defined by core holes which are completely barren of potash mineralization in all relevant ore zones. These areas may be on the exterior of the enclave, or they may be completely surrounded by enclave. The enclave boundary with these barren areas may shift if the potash standards are revised, but it can never extend beyond the barren core holes. Therefore, you may process APDs in areas which will remain barren regardless of a change in the potash standards.
- Areas in Residuum – Areas exist on the western side of the Potash Area where salt dissolution has occurred completely through all of the potash ore zones, leaving insoluble residuum in place. The enclave boundary, as defined by residuum and enclave core holes, is not expected to shift; residuum areas are defined as having a total absence of potash. Therefore, you may process APDs in the areas which are non-mineralized due to dissolution of the salts through the ore zones, which will not change regardless of a change in the potash standards.
- Drilling Islands – The 1986 Secretarial Potash Order allows for the establishment of drilling islands in certain areas within the potash enclave to allow oil and gas drilling while minimizing impacts to measured potash reserves. The decision to establish a drill island “wastes” a minimum amount of potash ore to allow oil and gas drilling; and this decision would not change, whether the potash standards are raised or lowered. Thus,

appropriately sited drill islands can continue to be established within the potash enclave, and you may continue to process APDs in existing drill islands during the period the potash standards are being reevaluated.

- Infield Drilling – There are several areas where oil and gas wells have been drilled in areas on approximately 40-acre spacing, immediately adjacent to the potash enclave. No matter if the potash standards are raised or lowered, these areas will remain impacted by the existing wells. Drilling more wells within these fields will not create further impacts to potash resources. Therefore, you may process APDs which constitute infield drilling in these areas.
- Interior High-Grade Areas – Interior portions of the enclave, where ore is present with a quality well above the present standards, should not change with a reasonable foreseeable revision to the cutoff standards.

The IBLA stated that, although ore being mined today is inherently “mineable under existing technology and economics,” it does not necessarily follow that recent mining also establishes economic cutoff grades or identifies the outer limits of a potash enclave. This is true because the average ore grade is a mixture of higher- and lower-grade ores and indicates that the true economic cutoff grade must be lower than that of ore being mined today. Thus, the economic cutoff grade should not be higher than the average ore grade currently being mined. Therefore, any enclave established by an ore grade above the current mined average should remain enclave, and you must process APDs in these areas for denial.

Areas Which Could Be Affected By a Change In the Cutoff Criteria

Certain portions of the Secretary’s Potash Area could be affected by a change in the cutoff standard. In these areas, APD processing will be deferred until after establishment of new potash standards.

- Areas with Core Holes Currently Containing Marginal or Subeconomic Ore – There are portions of the Secretary’s Potash Area, within the enclave or close to the enclave boundary, where core holes contain mineralization just above or just below the current cutoff standard that meet the other measured ore reserve criteria of thickness and core-hole spacing. In these areas, a change in the standard would have an effect on the location of the enclave boundary. Processing APDs submitted near these areas will be deferred until after the cutoff standard is determined.
- Recently Drilled Core Holes – Areas where core holes have been drilled, since the last update of the potash enclave and the core hole assays could meet or exceed the new cutoff standard for measured ore, shall have APDs deferred until the potash reserves in the area are evaluated.

- Areas Between Core Holes Containing Economic Ore and Barren Core Holes – Areas classified as barren, which contain one or more core holes which are barren of mineralization and are located within a reasonable distance of other core holes where geologic inference is acceptable, will most likely have a change in the enclave boundary.
- Processing APDs submitted in areas where the enclave could change if the cutoff standard is raised or lowered will be deferred until the cutoff standard is reevaluated.

Conclusion: You may process APDs, either for approval or denial, in areas which conclusively will not be affected by raising or lowering the economic cutoff standard for potash. For those areas that might change, processing APDs will be deferred until after the cutoff standard is reevaluated. In either instance, you should make specific case-by-case, fact-based determinations to process or defer a particular APD. Final decisions will be made for any APD processed according to the requirements of the Secretary's 1986 Order and the guidance of the IBLA decision.

Timeframe: This interim guidance shall be followed until the review of the potash enclave standard is completed.

Background: Please refer to the attached Interim Operating Guidelines.

Contact: Jay Spielman, Geologist, Fluid Minerals Program, at (505) 954-2152.

Authenticated by:
Diane M. Ellenburg

Signed by:
Linda S.C. Rundell

1 Attachment:

1 - Interim Operating Guidelines (8 pp)

Distribution

WO300, MIB, Rm. 5625 - 1
NM9200, M. Tupper - 1
NM9210, J. Spielman - 1
NM9210, A. Brumley - 1
NM9220, L. Wu - 1

**Interim Operating Guidelines
for
Processing Applications for Permit to Drill (APDs) in the Potash Area
Prior to the Economic Evaluation for Potash Cutoff Grades**

Overview

Various oil and gas operators appealed the Bureau of Land Management's (BLM) decisions to deny their APDs during the period between 1992 and 1995. These APDs were denied because they would result in undue waste of potash deposits or constitute a hazard to or unduly interfere with mining operations being conducted for the extraction of potash deposits. Several of these appeals were consolidated under one case (Interior Board of Land Appeals (IBLA) 92-612). The case was scheduled for hearing by the Office of Hearings and Appeals. Administrative Law Judge Patricia McDonald heard the case between August 15, 1996, and March 27, 1997. The record addressed was massive and complex. The submission of over 1,200 exhibits, 68,000 pages of documents, and the testimony of 37 witnesses resulted in a transcript of 15,275 pages. The review of the voluminous record took a great deal of time to review and decide. Administrative Law Judge McDonald issued her decision July 7, 2003. Administrative Law Judge McDonald's decision was appealed by the three interested parties in 2003 as cases IBLA 2003-334, 335, 336, and 341.

The IBLA issued a decision in IBLA 2003-334, 335, 336, and 341 on September 7, 2006, regarding the appeals of 72 denied APDs. In this decision, the IBLA stated "the identification of potash enclaves is central to the BLM's proper administration of the Potash Area under the Secretarial Order." The IBLA found "that the BLM failed to consider existing technology and economics based upon the best data currently available in periodically identifying and revising potash enclaves under and as required by the Secretarial Order." The IBLA remanded most of the 72 denied APDs because the record failed to establish that they were located in properly identified potash enclaves.

The potash cutoff standard, established by Donald M. Van Sickle in 1974, was inherent in the establishment of the potash enclave. That standard defined the economic cutoffs for conventionally mined potash ores as 4 feet at 10 percent K₂O Sylvite, 4 feet at 4 percent K₂O Langbeinite, or a mixed ore equivalent of Sylvite and Langbeinite. Since that standard had not been revisited since 1974, IBLA found the BLM had not considered existing technology and economics in establishing the potash enclave. Thus, the IBLA remanded the APDs for further consideration of the potash enclave prior to the BLM making new decisions.

Mineral Lands Classification Board Determination of Cutoff

In 2005, the BLM convened a Mineral Lands Classification Board to determine if the potash enclave cutoff grade should be changed as directed by Administrative Law Judge McDonald's 2003 decision in the IBLA 92-612. Administrative Law Judge McDonald stated, "the record does not support a conclusion that the standards of 4 feet of 10 percent K₂O and Sylvite and

4 feet of K_2O of Langbeinite, or a combination of the two, as defined by Van Sickle in 1974, continues to identify the thickness and quality of potash which is mineable under existing technology and economics" as required by the Secretarial Order of 1986.

The Board made their determination based on the assumption that the best way to determine the parameters or standards that constituted ore is to examine the actual mining that is occurring. The Board examined numerous mining areas where development mining occurred to the "economic limit" of the ore body. The Board found that for Sylvite, development mining was discontinued when the ore grade was close to or below 10 percent K_2O Sylvite. Since very little Langbeinite ore has been mined at the economic cutoff, a simple ratio was used to determine the cutoff grade for Langbeinite. (Assuming mining costs, milling costs, and sales value are similar to Sylvite.) The analysis yields a cutoff grade for Langbeinite of 4 percent K_2O .

The Mineral Land Classification Board was convened during the time the IBLA was reviewing Administrative Law Judge McDonald's decision in IBLA 92-612.

The IBLA's Response and the Mineral Lands Classification Board

The IBLA concluded an analysis of the type used by the Board was inadequate in the determining the lowest grades that are mineable under existing technology and economics. The IBLA stated in 2003-334, et al.:

"Since potash mining is not a charitable undertaking, it logically follows that potash ore grades currently being mined are 'mineable under existing technology and economics.' It does not, however, necessarily follow that recent mining also establishes applicable economic cutoff grades (i.e., grades below which it is no longer economic to mine potash) or identifies the outer limits of a potash enclave (i.e., minimum grades of potash ore that are mineable under existing technology and economics)."

"For example, if 15 percent Sylvite were mined, such could support a finding that > 15 percent Sylvite is mineable but sheds little light on whether 10 percent is also mineable (but yet to be mined). Such mining would neither confirm nor rebut the continuing validity of the Van Sickle Standard (i.e., 4 feet of 10 percent Sylvite) for identifying potash enclaves under the Secretarial Order." (170 IBLA 40.)

The Problem

The process of reevaluating the potash enclave is complicated and time consuming. The entire process could take several years to complete. In the meantime, appealed APDs were remanded, and new APDs continue to be submitted. Delaying the processing of APDs places a burden on the oil and gas companies and prevents the BLM from meeting the deadlines established in the Energy Policy Act.

To avoid holding up all APDs until the potash enclave is reevaluated, we recommend processing all APDs that we determine are not located in an area which could be affected by a foreseeable change in the enclave standard. Three possible outcomes exist for an evaluation of the enclave standard:

1. The standard will remain the same and the enclave will not change.
2. The standard will be raised and the enclave will contract.
3. The standard will be lowered and the enclave will expand.

Below is a brief discussion of the affects each outcome will have on the enclave.

The Standard Remains the Same

If the economic standard remains the same as it is today, there will be no change in the boundary of the enclave. Retaining the existing standard is supported by the conclusions reached by the Mineral Lands Classification Board in 2005. The Board examined the average grades being mined today and the grades at which mining was discontinued. The Board determined the grade at which mining was discontinued (cutoff grade) is very close to or below that of the current standard. The IBLA ruled that the type of evaluation used by the Board was inconclusive as to the lower limit of the cutoff grade; however, upper limit of the cutoff will be no higher than what is being mined today, but could be lower. That is, the potash ore grades currently being mined are "mineable under existing technology and economics." It does not, however, necessarily follow that recent mining also establishes applicable economic cutoff grades. That is, the grade at which mining becomes uneconomic.

The Standard is Raised

Raising the cutoff standard will have the net effect of contracting the area of measured ore (enclave) in the Secretary's Potash Area.

Raising the standard is one of the three possible outcomes of an evaluation of the cutoff standard. However, the level to which the cutoff standard can be raised is limited by the IBLA's determination that what is being mined today is mineable or economic. The average ore grade for Sylvite mining at the Mosaic mine since the first of the calendar year is 10.42 percent K_2O as Sylvite. It is logical to conclude that the cutoff grade for Sylvite will not be raised to a level higher than that what is currently being mined or 10.42 percent K_2O as Sylvite.

The Standard is Lowered

Lowering the cutoff grade will have the effect of expanding the enclave.

An economic study is required to determine the cutoff grade; there is no definitive information available at this time to estimate the lower limit economical for mining cutoff grade.

The Process and Solution

The potash enclave (Measured ore), as depicted on the "Preliminary Map Showing Distribution of Potash Resource, Carlsbad Mining District, Eddy and Lea Counties, New Mexico" last published in 1993, was drawn with the following three criteria:

1. Measured ore will be delineated by data points more than 1½ miles apart if geologic inference shows these projections to be reasonable.
2. Measured ore will not be delineated by less than three data points that meet all other distance and thickness and grade criteria.
3. Measured ore will not be projected further than ½ mile from a data point which meets thickness and quality standards where projection or geologic inference data exists.

Areas Not Affected by a Change in the Cutoff Criteria

The current potash enclave has significant areas where the enclave boundary will not change whether there is an increase or decrease in the economic cutoff grade for potash.

Areas Lacking Data

A significant portion of the enclave boundary is defined by a lack of data points rather than by existing points which are sub-economic. That is, there are no data points extending beyond where the enclave boundary is currently drawn. The enclave was projected ½ mile beyond the last known data point which meets thickness and quality standards. The boundary in these areas will remain the same whether the standard is lowered or stays the same. Only if the standard is raised is there a possibility the boundary will change. The condition necessary for this to occur is when the last known data point within the enclave contains ore quality between the current cutoff and where the cutoff would be if it were raised. In this case, the area surrounding the core hole would not be classified as measureable ore.

Since leaving the standard the same or lowering it will have no effect on the enclave boundary and raising the standard could only contract the enclave, if we process APDs, as if the standard did not change, then there is no irreparable harm to the potash resource. We conclude that APDs in these areas can be processed, as if the standard remained the same, according to the 1986 Secretary's Potash Order and the conditions set forth in the IBLA's decision.

Area Between the Known Potash Leasing Area (KPLA) and the Secretary's Potash Area Boundaries

Large portions of the Secretary's Potash Area are located between the KPLA boundary and the Secretary's Potash Area boundaries. The majority of this area is classified as barren of potash because the area either lacks data points, the data points are barren, or potash or the data points

contain subeconomic values of potash. In this area, APDs can be processed, as long as they are in an area which will not change whether the cutoff grade raised or lowered and according to the 1986 Secretary's Potash Order and the conditions set forth in the IBLA's decision.

Areas with a Low Density of Core Holes

The ore reserves in the Potash Area are divided into three categories: Measured, Indicated, and Inferred. Measured is defined as ore where the "quantity is computed from dimensions revealed in outcrops, trenches, workings, and drill holes; grade and/or quality are computed from the results of detailed sampling. The sites for inspection, sampling, and measurement are spaced so closely and the geologic character is so well defined that size, shape depth, and mineral content of the resource are well established." In the Potash Area, Measured ore reserves will be delineated by data points no more than 1½ miles apart if geologic inference shows these projections to be reasonable, and Measured ore will not be delineated by less than three data points that meet all other distance and thickness and grade criteria.

If an area does not meet Measured ore criteria, the next lower category is Indicated ore reserves. Indicated ore reserves are areas where the quantity and grade and/or quality are computed from information similar to that used for Measured resources, but the sites for inspection, sampling, and measurement are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than that for Measured resources, is high enough to assume continuity between points of observation. Spacing of data points does not meet Measured ore criteria; yet data points show mineralization higher than minimum thickness and quality.

Areas where some information is available, but not to the degree of Indicated ore reserves, are termed Inferred. Inferred ore reserves are estimates that are based on an assumed continuity beyond Measured and/or Indicated resources, for which there is geologic evidence. Inferred resources may or may not be supported by samples or measurements.

The areas currently classified as Indicated or Inferred ore in the Potash Area are delineated as such due to the low density of data points. In these areas, raising or lowering the cutoff standard will not impact the designation of either Indicated or Inferred.

The APDs can be processed for the areas in Indicated and Inferred ore where the enclave boundary was not calculated utilizing one data point in Measured ore reserves and one data point located in Indicated or Inferred ore. Processing will be done according to the 1986 Secretary's Potash Order and the conditions set forth in the IBLA's decision.

Mined-Out Areas

Areas exist where the potash enclave has been mined right up to the limits of ore. That is, no ore exists beyond what has already been mined, even though the 1993 map shows ore remaining. In these mined-out areas, there may or may not be data points on either side of the enclave boundary. Even if small quantities of ore remain beyond the mine workings, there may not be

any reasonable access for further mechanical underground mining. In these areas, it does not matter whether the standard is raised or lowered, no further mechanical mining is possible. For these areas, we conclude that APDs can be processed, as if no ore is present, while considering safety hazards created by subsidence resulting from past mining operations.

Barren Areas Defined by Core Holes

There are limited areas where a barren area is defined by core holes which are completely barren of mineralization in every relevant ore zone. These areas may be on the exterior of the potash enclave, or they may be completely surrounded by enclave. The enclave boundary present between these barren core holes and ones that have mineralization may shift as the cutoff standard changes, but it can never extend beyond the barren core holes. The APDs can continue to be processed in the areas which will remain barren regardless of a change in the cutoff standard.

Areas in Residuum

On the western side of the potash enclave, there are areas where dissolution of the Salado Salt has occurred. The flow of under-saturated groundwater moving in the formations at the top of the Salt has dissolved the Salt away, in places, completely through all of the potash ore zones leaving the insoluble residuum in place. The enclave boundary present between these core holes with all ore zones in residuum and ones that have mineralization in ore quality may shift as the cutoff standard changes, but it can never extend beyond the residuum core holes. The APDs can be processed in the areas which will remain non-mineralized due to dissolution of the salts through the ore zones, regardless of a change in the cutoff standard.

Drilling Islands

Areas within the potash enclave, where the BLM has previously established drilling islands pursuant to the 1986 Secretarial Order, can remain open for further applications. Drilling islands, by definition, are within the potash enclave and were established in areas that minimize the loss of potash ore. Their size is determined by existing condition or set to a minimum size and not in relation to the potash enclave boundary. Raising or lowering the cutoff standard may have an effect on the enclave boundary. However, since most drill islands are well within the enclave and established in particular locations for reasons other than the enclave boundary, changing the enclave boundary will not have any affect on the drill islands' size or location.

Since drill islands are established within the Potash Area in areas which minimize the impacts to measured potash reserves, the establishment of appropriately sited drill islands would be the same whether the cutoff standard is raised or lowered. Thus, nothing should prohibit the BLM from continuing to establish appropriately sited drill islands within the enclave or processing APDs in existing drill islands during the period the enclave cutoff standard is being reevaluated.

Infill Drilling

There are several areas where oil and gas wells have been drilled on approximately 40-acre spacing and are within or immediately adjacent to the potash enclave as presently drawn. If the cutoff standard is raised or lowered, these areas will remain impacted by the existing wells. Drilling more wells within these fields will not create further impacts to potash resources. The APDs which constitute infield drilling can continue to be processed.

Interior High-Grade Areas

Areas in the interior portion of the enclave, where ore is present with a quality well above the present cutoff, will not change whether the standard is raised or lowered.

The IBLA determined that what is being mined today is mineable, but not necessarily the lowest grades that can be mined economically. This implies that after the economic study of the cutoff grade is completed, the upper limit of the cutoff grade will not be higher than that of ore being mined today. The average ore grade for Sylvite mining at the Mosaic mine since the first of the calendar year is 10.42 percent K_2O for Sylvite. Thus, any enclave established with a grade above 10.42 percent will remain enclave, and APDs in these areas can be processed according to the 1986 Secretary's Potash Order, with the additional conditions required by the IBLA in the reference decision.

Areas Which Could be Affected by a Change in the Cutoff Criteria

There are areas within the Secretary's Potash Area which could be affected by a change in the cutoff standard. In these areas, the approval or denial of the APDs will be deferred until after establishment of a new cutoff standard.

Areas with Core Holes Currently Containing Marginal or Sub-economic Ore

There are areas in the Secretary's Potash Area, within the enclave or close to the enclave boundary, where core holes contain mineralization just above or below the current cutoff standard and meeting all other Measured ore reserve criteria. In these areas, a change in the standard would have an effect on the location of the enclave boundary. As described above, any areas of the enclave defined by core holes containing ore above 10.42 percent K_2O as Sylvite would remain enclave. Areas below this grade may change. Processing APDs submitted near these areas will be deferred until after the cutoff standard is determined.

Areas where Core Holes have been Drilled Since the Last Revision of the Potash Enclave

There are several areas where core hole drilling is currently ongoing. Each new core hole drilled and assayed may affect the location of the enclave boundary. In areas where new core holes contain assays that reasonably could be classified as economic and the core holes meet distance and density standards of measured reserves, processing APDs will be deferred until the new potash cut-off grade is determined and the enclave boundary re-drawn.

Areas Between Core Holes Containing Economic Ore and Barren Core Holes

Areas classified as barren, which contain one or more core holes which are barren of mineralization and located within a reasonable distance of other core holes where geologic inference is acceptable, will most likely have a change in the enclave boundary. Processing APDs submitted in areas where the enclave could change if the cutoff standard is raised or lowered will be deferred until the cutoff standard is reevaluated.

Conclusion

We conclude that APDs can continue to be processed, either for approval or denial, in areas which conclusively will not be affected by raising or lowering the cutoff standard for potash. For those areas that might change, processing APDs will be deferred until after the cutoff standard is reevaluated. In either instance, specific case-by-case, fact-based determination will be made to process or defer a particular APD. Final decisions will be made for any APD processed according to the requirements of the Secretary's 1986 Order and the guidance of the IBLA decision.

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EXISTING POTASH LEASE
STIPULATIONS AND POTENTIAL
CONDITIONS OF APPROVAL FOR HB IN-
SITU SOLUTION MINE EIS

Appendix B

Existing Potash Lease
Stipulations and Potential
Conditions of Approval for
HB In-Situ Solution Mine EIS

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EXISTING POTASH LEASE STIPULATIONS AND POTENTIAL CONDITIONS OF APPROVAL FOR HB IN- SITU SOLUTION MINE EIS

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1 Existing Potash Lease Stipulations

The following lease stipulations are attached to the potash leases owned by Intrepid and associated with this project. Not all stipulations are attached to all leases.

1.1 Special Stipulations

These stipulations are a minimum requirement for general lease operations. More restrictive stipulations may be required for specific projects.

1.1.1 Damage Indemnity

The lessee shall agree and stipulate that the Federal Government, the Department of the Interior, and the Bureau of Land Management and its representatives shall not be responsible for damage or injury to persons and property which may occur during the permitted use period or as a result of such use.

1.1.2 Compliance with Laws and Regulations

The lessee shall comply with all applicable Federal, State and local laws and regulations existing or hereafter enacted or promulgated during the term of this action.

1.1.3 Oil and Gas Production

Operations shall not be conducted which in the opinion of the authorized officer would constitute a hazard to oil and gas production or that would unreasonably interfere with the orderly development and production under any oil and gas lease issued for the same lands.

1.1.4 Pollution Removal

If, during any phase of the construction or operation of the lease, any pollutant or hazardous material should be discharged by the operator or his representative impacting Federal lands, the control and total removal, disposal, and cleanup of such pollutant or hazardous material, wherever found, shall be the responsibility of lessee, regardless of fault. Upon failure of lessee to control, dispose of, or cleanup such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control the cleanup, the discharge, and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the lessee. Such action by the Authorized Officer shall not relieve the lessee of any responsibility as provided herein.

1.1.5 Wood and Plant Removal

Removal of fuel wood and live plants from public lands are not permitted unless approved by the authorized officer.

1.1.6 Mineral Removal

Removal of mineral materials such as sand, gravel, caliche, or building stone is not allowed unless authorized by a current sales contract. No new caliche pits or other material pits on federal lands shall be allowed without the approval of the Authorized Officer. Mineral materials

removed from Federal lands is by permit only. A permit shall be purchased prior to mineral material removal.

1.1.7 Antiquities

The collection, excavation, removal, damage to or alteration of any antiquities, including Indian artifacts and arrowheads is prohibited by the Archeological Resources Protection Act (16 USC 470aa-4701l). The lessee shall be responsible for ensuring that people employed by the lessee or under contract to the lessee shall abide by this law.

1.1.8 Cultural Resources

Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the lessee or any person working on the lessee's behalf, on Federal land shall be immediately reported to the authorized officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. The authorized officer shall determine the appropriate actions necessary in order to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any measures necessary to mitigate the site as determined by the authorized officer. With consultation with the lessee.

1.1.9 Cultural Survey

A cultural survey shall be conducted by an archeologist approved by the BLM, prior to any construction activities on lands not previously surveyed.

1.1.10 New Construction

The lessee shall obtain prior written approval from the BLM of any construction not authorized in a previously approved plan. Notification to the BLM of the activity shall be in the form of a written mining plan modification.

1.1.11 Fences

If a fence is crossed during lease operations, to prevent slacking of fence wire, the lessee will brace and tie-off each existing fence to be crossed before cutting. During construction, the opening shall be protected to prevent the escape of livestock. Fences which have been cut during construction will be restored by the lessee to a condition which is equal to or better than the original. Cattle guards and adjacent gates which are of a suitable width will also be installed in any fence where a road created during construction is to be regularly traveled.

1.1.12 Gates

Gates or cattle guards on public lands shall not be locked or closed to public use by the lessee. Gates will be kept closed at all times unless the grazing allottee requests them to be left open.

1.1.13 Surface Owner Notification

Prior to any construction, the lessee shall notify the grazing allottee or the surface owner, in the case of private ownership, of the activity. Abandonment stipulations will coincide with surface owner agreement.

1.1.14 Scattering

Vegetation, soil and rocks left as a result of construction or maintenance activity will be randomly scattered in the vicinity and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer.

1.1.15 Blading

Clearing and blading of roads and pads will be held to a minimum unless approved by the authorized officer.

1.1.16 Pits

At the conclusion of construction activities requiring the excavation of pits on the surface of Federal lands, the pits will be filled with soil such that after compaction the pit is at ground level.

1.1.17 Trash

No landfills for the disposal of any waste shall be allowed. All trash shall be hauled to an approved sanitary landfill or dump site. Any other methods of disposal shall first be approved by the Authorized Officer.

1.1.18 Concrete

No excess or waste concrete shall be dumped on Federal lands. If concrete is accidentally spilled, it will be removed and disposed of properly.

1.1.19 Noxious Weeds

The operation of the lease may not result in the establishment of noxious weeds as defined by the Carlsbad Field Office. If any lease action is responsible for the establishment of any noxious weeds on the leased or surrounding lands, the lessee will be responsible for their removal at the lessees expense. The current noxious weeds defined by the Carlsbad Field Office are: Malta Starthistle, African Rue, Scotch Thistle, Saltcedar, or Rayless Goldenrod. This list may change at any time.

1.1.20 Painting

Any structures erected at a location away from the main plant site, as determined by the BLM shall be painted a color which blends in with the natural landscape. The color shall be one that is approved by the BLM.

1.2 Road Construction Stipulations**1.2.1 Road Width and Grade**

The road will have a driving surface no greater than 12 feet. The maximum grade of the road at any point will be no more than 10 percent. Minimum road construction techniques are recommended.

1.2.2 Surface Disturbance Width

The maximum width of surface disturbance resulting from road construction will be 30 feet. Minimum road techniques are recommended.

1.2.3 Cattle guards

Where used, all cattle guard grids and foundation designs and construction shall meet the American Association of State Highway and Transportation Officials (AASHTO) Load Rating H-20, although AASHTO U-80 rated grids shall be required where heavy loads (exceeding H-20 loading), are anticipated (see BLM standard drawings for cattle guards). Cattle guard grid length shall not be less than 8 feet and width of not less than 14 feet. A wire gate (16-foot minimum width) will be provided on one side of the cattle guard unless requested otherwise by the surface user.

1.3 Reclamation

Stipulations required by the Authorized Officer on specific actions may differ from the following general guidelines.

1.3.1 Core Hole Reclamation

- A. All the core holes shall be plugged from bottom to top with cement to protect water bearing aquifers.
- B. A 4-inch pipe marker will be set extending 5 feet above ground level and will have the location and lessee's name appropriately marked on the pipe.
- C. Upon abandonment of a core hole, a lithology log shall be submitted with assays and mineral balances when warranted.

1.3.2 Road and Site Reclamation

- A. Any new roads or pads constructed during lease operation will be ripped and seeded, and any drilling pads constructed will be ripped and seeded.
- B. Any areas where vehicles have been driven across open country will have three tee posts with wire stretched between them, erected across the access to the disturbance in order to restrict further vehicular use.
- C. Any land disturbed during construction will be seeded to the specifications below.
- D. A berm will be constructed across the entrance to any road reclaimed with a minimum height of 3 feet and a length sufficient to prohibit or discourage vehicular travel.
- E. The surface allottee can request that a road be allowed to remain, if approved by the Authorized Officer.

1.3.3 Facility Reclamation

Any surface structure erected during lease operation shall be removed and disposed of in a proper manner according to Federal, State and County laws and regulations. Any concrete spilled on the Public Lands shall be removed and disposed of properly.

1.3.4 Hazardous Waste Removal

Any hazardous wastes spilled or otherwise used on the site will be removed and disposed of by a method approved by the authorized officer at the expense of the lessee.

1.3.5 Reseeding

If after one growing season the vegetation has not taken hold, re-seeding will be required as in the steps below.

1.3.5.1 Seeding Techniques

Seeds shall be drilled to a proper depth to insure good coverage and germination. The seed mixture shall be evenly and uniformly planted over the disturbed area. If drilling is not possible, seeds shall be broadcast and the area raked or dragged to cover the seed.

1.3.5.2 Seed Mixture

A certified "Weed Free" seed mixture will be used for reclamation. The suggested seed mixtures can be found in Section 3 of this appendix. The seed mixture may be changed with the approval of the authorized officer. Species are to be planted in pounds of pure live seed per acre.

1.3.5.3 Soil Preparation

A granular 16-12-12 fertilizer, or better, will be required at the rate of 200 lbs. per acre.

Fertilizer requirements may be modified prior to the performance of reclamation upon approval of the Authorized Officer.

Water shall be applied directly after planting, irrigated a minimum of three inches into the soil in order to provide adequate amounts of moisture, and to help embed the seeds. Seeding prior to the fall rainy season is preferable.

2 Pending Conditions of Approval

These COAs will be applied to the APDs and ROWs associated with this project as needed and as determined by BLM resource specialists)

2.1 General

2.1.1 Damage Indemnity

The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2.1.2 Toxic Substances Control Act Compliance

The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be

furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

2.1.3 Hazardous Waste Indemnity

The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

2.1.4 Fences

The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer. The holder will make a documented good-faith effort to contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence.

2.1.5 Scattering

Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. A berm will be left over the ditch line to allow for settling back to grade.

2.1.6 Erosion Control Structures

In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

2.1.7 Reseeding

The holder will reseed. Seeding will be done according to the attached seeding requirements.

2.1.8 Painting Requirements

All permanent surface production facilities, including the well-drive control system, treatment, storage, power (except specifically approved electrical transmission lines and poles, or other permanent above-ground facilities not otherwise specifically subject to safety coloring requirements), shall be painted by the holder to blend with the dominant natural color of the surrounding landscape. The paint used shall be one of the "Standard Environmental Colors"

designated by the Rocky Mountain Five-State Interagency Committee, and shall be a flat, non-reflective finish. Any exception to this Painting Requirement must be approved by the BLM Authorized Officer in writing prior to implementation.

2.1.9 Cultural Resources

Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

2.1.10 Native American Graves Protection and Repatriation Act

The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes.

2.1.11 Pollution Removal

If, during any phase of the construction, operation, maintenance, or termination of the [PROJECT], any oil or other pollutant should be discharged, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of the Holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the Holder. Such action by the Authorized Officer shall not relieve the Holder of any liability or responsibility as provided herein.

2.2 Pipelines

2.2.1 All Pipelines

2.2.1.1 Damage Liability

The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury

to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

- Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.
- Activities of other parties including, but not limited to:
 1. Land clearing.
 2. Earth-disturbing and earth-moving work.
 3. Blasting.
 4. Vandalism and sabotage.
- Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred. This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

2.2.1.2 Right-Of-Way

All construction and maintenance activity will be confined to the authorized right-of-way width of 25 feet. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

All construction and maintenance activity will be confined to the authorized right-of-way.

2.2.1.3 Signage

The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

2.2.2 Buried Pipeline

2.2.2.1 Cover

The pipeline will be buried with a minimum cover of 24 inches between the top of the pipe and ground level.

2.2.2.2 Blading

Blading of all vegetation will be allowed. Blading is defined as the complete removal of brush and ground vegetation. Clearing of brush species will be allowed. Clearing defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface. In areas where blading and/or clearing is allowed, maximum width of these operations will not exceed 35 feet.

2.2.3 Surface Pipeline

2.2.3.1 *No Blading W/O Approval*

No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

2.2.3.2 *Minimize Suspension*

The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky or dune areas, the pipeline will be "snaked" around hummocks and dunes rather than suspended across these features.

2.2.3.3 *Crossing Burial*

The pipeline shall be buried with a minimum of 24 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

2.3 Cave/Karst

2.3.1 Karst Features

The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction and no further construction will be done at that point until clearance has been issued by the Authorized Officer. Special restoration stipulations or a realignment may be required at such intersections, if any. The project will be routed around sinkholes and other karst features when practical. Turnout ditches and drainage leadoffs will not be constructed in such a manner as to increase or decrease the natural flow of water into or out of cave or karst features.

2.3.2 Surface Disturbance Buffer

Surface disturbance will not be allowed within up to 200 meters of known cave entrances, passages or aspects of significant caves, or significant karst features. Waiver of this requirement will be considered for projects that enhance or protect renewable natural resource values, or when an approved plan of operations ensures the protection of cave and karst resources.

2.3.3 Cave Protection

To mitigate or lessen the probability of impacts associated with the drilling wells in karst areas, the guidelines listed in Appendix 3, Practices for Oil and Gas Drilling and Production in Cave and Karst Areas, as approved in the Carlsbad Resource Management Plan Amendment of 1997, page AP3-4 through AP 3-7 will be applied as appropriate.

2.3.4 Protection Protocols

BLM maintains up to date locations and surveys of known cave and karst features. Projects will be located away from these features whenever possible. Drilling pads, roads, utilities, pipelines and flowlines will be routed around cave and karst features at an adequate distance to mitigate

adverse impacts. Wellbore engineering plans will incorporate required cave and aquifer protection protocols.

2.3.5 Aquifer Recharge

Highly sensitive cave and karst areas with critical freshwater aquifer recharge concerns may have a number of special surface and subsurface planning and construction requirements based upon the risk of adverse impacts created by a specific location or process.

2.3.6 Cave/Karst Construction Mitigation

In order to mitigate the impacts from construction activities on cave and karst resources, the following Conditions of Approval will apply to this APD:

- In the event that any underground voids are encountered during construction activities, construction activities will be halted and the BLM will be notified immediately.
- Delayed Blasting
OR
No Blasting to prevent geologic structure instabilities.
- Pad Berming to minimize effects of any spilled contaminants.

2.3.7 Cave/Karst Drilling Mitigation

Federal regulations and standard Conditions of Approval applied to all APDs require that adequate measures are taken to prevent contamination to the environment. Due to the extreme sensitivity of the cave and karst resources in this project area, the following additional Conditions of Approval will be added to this APD.

To prevent cave and karst resource contamination the following will be required.

- Closed Mud System with Buried Cuttings Pit/Drying Area.
OR
Closed Mud System with Cuttings Pit/Drying Area and Cuttings Removed.
OR
Closed Mud System Using Steel Tanks with All Fluids and Cuttings Hauled Off.
- Rotary drilling with fresh water where cave or karst features are expected to prevent contamination of freshwater aquifers.
- Directional Drilling allowed after at least 100 feet below the cave occurrence zone to prevent additional impacts resulting from directional drilling.
- Lost Circulation zones logged and reported in the drilling report so BLM can assess the situation and work with the operator on corrective actions.
- Additional drilling, casing, and cementing procedures to protect cave zones and fresh water aquifers.

2.4 Roads

2.4.1 Invasive Plant Species

The Holder shall ensure that the entire right-of-way, including the driving surface, ditching and drainage control structures, road verges and any construction sites or zones, will be kept free of the following plant species: Malta starthistle, African rue, Scotch thistle and salt cedar.

2.4.2 Road Width and Grade

The road will have a driving surface of 14 feet (all roads shall have a minimum driving surface of 12 feet, unless local conditions dictate a different width). The maximum grade is 10 percent. Maximum width of surface disturbance from construction will be 30 feet.

2.4.3 Crowning and Ditching

Crowning with materials on site and ditching on one side of the road on the uphill side will be required. The road cross-section will conform to the cross section diagrams in Figure 1. If conditions dictate, ditching may be required for both sides of the road; if local conditions permit, a flat-bladed road may be considered. The crown shall have a grade of approximately 2% (i.e., 1" crown on a 12' wide road).

2.4.4 Drainage

Drainage control shall be ensured over the entire road through the use of borrow ditches, out-sloping, in-sloping, natural rolling topography, lead-off (turnout) ditches, culverts, and/or drainage dips.

2.4.4.1 Lead-Off Ditches

All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval for lead-off ditches shall be determined according to the following table, but may be amended depending upon existing soil types and centerline road slope (in %):

[INSERT SPACING INTERVAL TABLE]

A typical lead-off ditch has a minimum depth of 1 foot below and a berm 6 inches above natural ground level. The berm will be on the down-slope side of the lead-off ditch. The ditch end will tie into vegetation whenever possible.

2.4.4.2 Culvert Pipes

Culvert pipes shall be used for cross drains where drainage dips or low water crossings are not feasible. The minimum culvert diameter must be 18 inches. Any culvert pipe installed shall be of sufficient diameter to pass the anticipated flow of water. Culvert location and required diameter are shown on the attached map (Further details can be obtained from the Pecos District Office or the appropriate Field Office).

2.4.4.3 Drainage Dips

On road slopes exceeding 2%, drainage dips shall drain water into an adjacent lead-off ditch. Drainage dip location and spacing shall be determined by the formula:

[INSERT DRAINAGE DIP FORMULA]

2.4.5 Turnouts

Unless otherwise approved by the Authorized Officer, vehicle turnouts will be required.

Turnouts will be located at 2000-foot intervals, or the turnouts will be intervisible, whichever is less. Turnouts will conform to the following diagram:

[INSERT ROAD TURNOUT DIAGRAM]

2.4.6 Surfacing

Surfacing of the road or those portions identified on the attached map may, at the direction of the Authorized Officer, be required, if necessary, to maintain traffic within the right-of-way with caliche, gravel, or other surfacing material which shall be approved by the Authorized Officer.

When surfacing is required, surfacing materials will be compacted to a minimum thickness of six inches with caliche material. The width of surfacing shall be no less than the driving surface.

Prior to using any mineral materials from an existing or proposed Federal source, authorization must be obtained from the Authorized Officer.

A sales contract for the removal of mineral materials (caliche, sand, gravel, fill dirt, etc.) from an authorized pit, site, or on location must be obtained from the BLM prior to using any such mineral material from public lands. Contact the BLM solid minerals staff for the various options to purchase mineral material.

2.4.7 Cattleguard Requirements

Where used, all cattleguard grids and foundation designs and construction shall meet the American Association of State Highway and Transportation Officials (AASHTO) Load Rating H-20, although AASHTO U-80 rated grids shall be required where heavy loads (exceeding H-20 loading), are anticipated (See BLM standard drawings for cattleguards). Cattleguard grid length shall not be less than 8 feet and width of not less than 14 feet. A wire gate (16-foot minimum width) will be provided on one side of the cattleguard unless requested otherwise by the surface user.

2.4.8 Maintenance

The holder shall maintain the road in a safe, usable condition. A maintenance program shall include, but not be limited to blading, ditching, culvert installation, culvert cleaning, drainage installation, cattleguard maintenance, and surfacing.

2.4.9 Public Access

Public access along this road will not be restricted by the holder without specific written approval being granted by the Authorized Officer. Gates or cattleguards on public lands will not be locked or closed to public use unless closure is specifically determined to be necessary and is authorized in writing by the Authorized Officer.

2.5 Power Lines

2.5.1 All Power Lines

2.5.1.1 *Blading of Powerline ROWs*

There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

2.5.1.2 *Power Line Signage*

The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

2.5.1.3 *Abandonment*

Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

2.5.1.4 *Removal of Surface Structures*

All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

2.5.1.5 *Noxious Weeds*

The holder shall insure that the equipment and or vehicles that will be used to construct, maintain and administer the access roads, well pad, and resulting well are not polluted with invasive and noxious weed seeds. Transporting of invasive and noxious weed seeds could occur if the equipment and vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to construction, maintenance and administration of the access roads, well pad, and resulting well. The holder is responsible for consultation with the authorized officer and/or local authorities for acceptable weed control methods, which include following EPA and BLM requirements and policy.

2.5.1.6 *Waste Disposal*

2.5.2 The holder shall be responsible for maintaining the site in a sanitary condition at all times; waste materials shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to human waste, trash, garbage, refuse, oil drums, petroleum products, ashes and equipment. Overhead Power Lines

2.5.2.1 *Raptor Protection*

Powerlines shall be constructed in accordance to standards outlined in "Suggested Practices for Raptor Protection on Powerlines," Raptor Research Foundation, Inc., 1981. The holder shall assume the burden and expense of proving that pole designs not shown in the above publication are "raptor safe." Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

2.5.2.2 *Special Power Line Stipulations*

Limit all disturbance to authorized width of approved access road.

For reclamation remove poles, lines, transformer, etc. and dispose of properly.

Fill in any holes from the poles removed.

2.5.3 Buried Power Lines

2.5.3.1 *Limits*

The holder shall conduct all activities associated with the construction, operation and termination of the power line within the authorized limits.

2.5.3.2 *Construction Trenches*

Construction trenches left open overnight shall be covered. Covers shall be secured in place and shall be strong enough to prevent livestock or wildlife from falling through and into a hole.

2.5.3.3 *Excavated Soil*

The holder shall evenly spread the excess soil excavated from trench in the immediate vicinity of the trench structure.

2.5.3.4 *Special Buried Powerline Stipulations*

The construction of this project would consist of digging a trench to a depth of at least 38 inches, then installing the power line and covering with backfill dirt. After completing construction of the buried power line, the line shall be marked with underground power line warning signs at least every ¼ mile.

2.6 Reclamation

2.6.1 Interim Reclamation

2.6.1.1 *Interim Reclamation*

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

2.6.1.2 *Reduction Strategy*

Within six (6) months of well completion, operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient well operation.

2.6.1.3 Caliche Removal

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for operation or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

2.6.1.4 Reseeding Requirements

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

2.6.1.5 Notice

Upon completion of interim reclamation, the operator shall submit a Subsequent Report of Reclamation (Form 3160-5).

2.6.2 Final Reclamation

2.6.2.1 Final Reclamation

At final abandonment, well locations, facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

2.6.2.2 Earthwork

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

2.6.2.3 Revegetation

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

2.6.2.4 Contact BLM Prior to Abandonment

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives.

2.6.2.5 Abandoned Well Marker

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

2.7 Recreation

2.7.1 RMP Guidelines

To mitigate impacts associated with the drilling and production of oil and gas wells and associated infrastructure (roads, power lines, pipelines, etc.) in the SRMA, the guidelines in Appendix 4 as approved in the Carlsbad Resource Management Plan Amendment of 1997, page AP4-131 will be followed. This includes the standard mitigation for protecting ORV trails and camping areas.

2.7.2 Powerline and Pipeline recreation mitigation

The pipeline shall be buried a minimum of 24 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. During all phases of construction, open ditches shall have proper signage notifying trail users of potential hazards. Upon completion of construction, the road shall be returned to pre-construction condition with no bumps or dips. Power line poles will be spaced to avoid pole placement within trails and "two tracks." All vehicle and equipment operators will observe speed limits and practice responsible defensive driving habits.

2.8 Range

2.8.1 Range Standard Practices

Impacts to the ranching operation are reduced by the following standard practices such as utilizing existing surface disturbance, minimizing the well pad and access road total surface disturbance, utilizing steel tanks instead of reserve pits, minimizing vehicular use, placing parking and staging areas on caliche surfaced areas, reclaiming the areas not necessary for production, and quickly establishing vegetation on the reclaimed areas. Avoiding existing range improvement projects, or moving them, will prevent them from being damaged by the proposed action.

2.8.2 Livestock Watering Requirement

Structures that provide water to livestock, such as windmills, pipelines, drinking troughs, and earthen reservoirs, will be avoided by moving the proposed action.

OR

Structures that provide water to livestock, such as windmills, pipelines, drinking troughs, and earthen reservoirs, will be moved a minimum of 200 meters away from the proposed action.

2.9 Visual Resources

2.9.1 Reclamation Requirements

After final abandonment and reclamation, the pad, road and associated infrastructure will be removed, reclaimed, recontoured and revegetated, thereby eliminating visual impacts.

2.9.2 Low Profile Facilities

All permanent surface production facilities, including the well-drive control system, treatment, storage, power (except specifically approved electrical transmission lines and poles), or other permanent above-ground facilities shall be "low profile", not to exceed ____ feet in height. Any exception to this Low Profile Facilities must be approved in writing by the BLM Authorized Officer prior to implementation.

2.10 Soil

2.10.1 Slopes or Fragile Soils

Surface disturbance will not be allowed on slopes over 30 percent. Exceptions will be considered for authorized mineral material extraction sites and designated OHV areas, for the installation of projects designed to enhance or protect renewable natural resources, or if a plan of operations and development which provides for adequate mitigation of impacts was approved by the Authorized Officer. Occupancy or use of fragile soils will be considered on a case-by-case basis.

2.10.2 Rights-Of-Way

2.10.2.1 Standard ROW Practices

Impacts to soil resources will be reduced by following standard practices such as utilizing existing surface disturbance and quickly establishing vegetation on the disturbed areas.

2.10.2.2 ROW Mitigation

To further reduce impacts the following COAs will apply: minimizing the right-of-way width, no blading along the proposed route, minimizing vehicular use, and placing parking and staging areas on caliche surfaced areas.

Temporary soil erosion mitigation includes installing silt fences, diversion berms, or other soil erosion controls to slow water migration across disturbed areas during construction and reclamation.

2.10.3 Well Pads

2.10.3.1 Well Pad Standard Practices

Impacts to soil resources are reduced by the following standard practices which include: utilizing existing surface disturbance, minimizing the well pad and access road total surface disturbance, utilizing steel tanks instead of reserve pits, minimizing vehicular use, placing parking and staging areas on caliche surfaced areas, reclaiming the areas not necessary for production and quickly establishing vegetation on the reclaimed areas.

2.10.3.2 Well Pad Mitigation

To further reduce impacts the following COAs will apply:

- Surface with caliche, interim reclamation, and caliche removal at time of reclamation.
- Stockpile topsoil to enhance reclamation.

OR

There is no measurable soil on this well pad to stockpile. No topsoil stockpile is required.

- Install silt fences, diversion berms, or other soil erosion controls to slow water migration across disturbed areas during construction and reclamation.

2.11 Wildlife

2.11.1 Wildlife Habitat Projects

2.11.1.1 Raptor Nests and Heronries

Surface disturbance will not be allowed within up to 200 meters of active heronries or by delaying activity for up to 120 days, or a combination of both. Raptor nests on special, natural habitat features, such as trees, large brush, cliff faces and escarpments, will be protected by not allowing surface disturbance within up to 200 meters of nests or by delaying activity for up to 90 days, or a combination of both.

Exceptions to this requirement for raptor nests will be considered if the nests expected to be disturbed are inactive, the proposed activity is of short duration (e.g. habitat enhancement projects, fences, pipelines), and will not result in continuing activity in proximity to the nest.

2.11.1.2 Prairie Dog Towns

Surface disturbance will not be allowed on public lands within known prairie dog towns or towns identified in the future. Exceptions to this requirement will be considered for maintaining existing structures or facilities. Prairie dog control will not be authorized on public lands, except in emergency situations involving public health.

2.11.2 Special Status Species

2.11.2.1 Prairie Chickens

2.11.2.1.1 LPC Timing Limitation

Drilling will not be allowed in lesser Prairie Chicken habitat during the period of March 15 through June 15, each year. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 a.m. and 9:00 a.m. The 3:00 a.m. to 9:00 a.m. restriction will not apply to normal, around-the-clock operations, which do not require a human presence during the period.

Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise. Exceptions to these requirements will be considered for areas of

no or low prairie chicken booming activity, or unoccupied habitat, including leks, as determined at the time of permitting, or in emergency situations.

2.11.2.1.2 Ground Level Dry Hole Markers

The BLM Carlsbad Field Office (CFO) Conditions of Approval (COA) Requires that ground level dry hole markers be placed on well within the Lesser Prairie Chicken habitat area. The dry hole markers will be to the following specifications. The operator will construct the markers as follows:

- 1) An 8 inch X 8 inch steel plate 1/8 to 3/16 of an inch thick is to be placed on the old dry hole marker stand pipe 2 inches from ground level, in the Lesser Prairie Chicken habitat area.
- 2) Steel plate may be welded or bolted approximately 2 inches from ground level on the stand pipes. If plates are bolted to the stand pipe, the person installing the plate will be required to weld a pipe collar on the plate and place a minimum of two set screws/bolt on each collar. Aluminum data plates may be bolted with minimum 1/4 inch bolt and locking nuts or self tapping fine threaded screws. A minimum of one in each corner is to be installed on each plate.
- 3) An 8 inch x 8 inch aluminum plate, which is 12 gauge or .080 sign material (1/8 inch aluminum plate may be used in place of the .080 plate) with the required information for that well stamped or engraved in a minimum 3/8 inch tall letter or number.
- 4) The following information will be stamped or engraved on the 8 inch X 8 inch aluminum plate in the following order.
 - a) First row: Operators name
 - b) Second row: Well name and number
 - c) Third row: Legal location to include 1/4 1/4, Section, Township, and range. If the legal location cannot be placed on one row it can be split into two rows with the 1/4 1/4 (example: 1980 FNL 1980 FWL) being on the top row.
 - d) Fourth row: Lease Number and API number.

NMOCD Order No. R-12965 also required the operator to notify NMOCD when this type of dry hole marker is used. This can be done on the subsequent report of abandonment which is submitted to the BLM after the well is plugged. State that a ground level dry hole marker was installed as required in the COA's from the BLM.

2.11.2.2 Sand Dune Lizards

Surface disturbance will not be allowed in documented occupied habitat areas, or within up to 100 meters of suitable habitat associated with occupied habitat areas identified through field review. An exception to this restriction will be considered when an on-site evaluation of habitat extent, available species occurrence data, the proposed surface use, and proposed mitigations indicate the proposal will not adversely affect the local population.

2.12 Water Quality/Watershed

2.12.1 Streams, Rivers and Floodplains

Surface disturbance will not be allowed within up to 200 meters of the outer edge of 100-year floodplains, to protect the integrity of those floodplains. On a case-by-case basis, an exception to this requirement may be considered based on one or more of the criteria listed below. The first three criteria would not be applied in areas of identified critical or occupied habitat for federally listed threatened or endangered species.

- Additional development in areas with existing developments that have shown no adverse impacts to the riparian areas as determined by the Authorized Officer, following a case-by-case review at the time of permitting.
- Suitable off-site mitigation if habitat loss has been identified.
- An approved plan of operations ensures the protection of water or soil resources, or both.
- Installation of habitat, rangeland or recreation projects designed to enhance or protect renewable natural resources.

2.12.2 Playas and Alkali Lakes

Surface disturbance will not be allowed within up to 200 meters of playas or alkali lakes. Waiver of this requirement will be considered on a case-by-case basis for projects designed to enhance or protect renewable natural resources. Mitigation could include: installing fencing; developing a supplemental water supply; planting trees and shrubs for shelter belts; conducting playa basin excavation; constructing erosion control structures or cross dikes; or by improving the habitat in another area.

2.12.3 Standard Practices to Protect Watersheds

Standard practices or design features of the proposed project that minimize impacts to the watershed and water quality include: utilizing a closed loop system with no reserve pits, berming of the production facilities, utilizing existing surface disturbance, minimizing the well pad and access road total surface disturbance, minimizing vehicular use, surfacing parking and staging areas with caliche and reclaiming the areas not necessary for production and quickly reestablishing vegetation on the reclaimed areas.

2.12.4 Mitigation Measures to Protect Watersheds

To further reduce impacts the following COAs will apply:

Surface disturbance will not be allowed (within x feet of playa; or describe pad restriction). The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been completed.

Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion.

Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control.

2.12.5 Surface Pipelines

A leak detection plan will be submitted to the BLM Carlsbad Field Office for approval prior to pipeline installation. The method could incorporate gauges to detect pressure drops, situating values and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

2.13 Vegetation

2.13.1 Well pads

2.13.1.1 Vegetation to Protect Vegetation from Well Pads

Impacts to vegetation are reduced by the following standard practices which include: utilizing existing surface disturbance, minimizing the well pad and access road total surface disturbance, utilizing steel tanks instead of reserve pits, minimizing vehicular use, placing parking and staging areas on caliche surfaced areas, reclaiming the areas not necessary for production and quickly establishing vegetation on the reclaimed areas.

2.13.1.2 Mitigation to Protect Vegetation from Well Pads

To further reduce impacts the following COAs will apply: Interim reclamation and caliche removal at time of reclamation.

2.13.2 Rights-Of-Way

2.13.2.1 Standard Practices to Protect Vegetation from ROWs

Impacts to vegetation will also be reduced by following standard practices such as utilizing existing surface disturbance and quickly establishing vegetation on the disturbed areas.

2.13.2.2 Mitigation to Protect Vegetation from ROWs

To further reduce impacts the following COAs will apply: Minimizing the right-of-way width, No blading along the proposed route, Minimizing vehicular use, Placing parking and staging areas on caliche surfaced areas.

2.14 Noxious Weeds

2.14.1 Mitigation for Weeds

To further reduce impacts the following COAs will apply:

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized

Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

2.14.2 African Rue Standard Stipulations

2.14.2.1 African Rue (*Peganum harmala*)

The standard stipulation for the BLM Carlsbad Field Office states the operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA, and BLM requirements and policies.

2.14.2.2 Spraying

The spraying of African Rue must be completed by a licensed or certified applicator. In order to attempt to kill or remove African Rue the proper mix of chemical is needed. The mix consists of 1% Arsenal (Imazapyr) and 1% Roundup (Glyphosate). African rue must be sprayed two weeks prior to any dirt working activities or disturbances to the site being sprayed. This will allow proper time to ensure the plants mortality. After the two week period the operator or necessary parties must contact the Carlsbad Field Office to inspect the effectiveness of the application treatment to the plant species. No ground disturbing activities can take place until the inspection by the authorized officer is complete. The operator may contact the Carlsbad Field Office at (505) 234-5972.

2.14.2.3 African Rue Management Practices

In addition to spraying for African Rue good management practices must be followed. All equipment must be washed off using a power washer in a designated containment area. The containment area needs to be bermed to allow for containment of the seed to prevent it from entering any open areas of the nearby landscape. The containment area needs to be excavated near or adjacent to the well pad at a depth of three feet and just large enough to get equipment inside it to be washed off. This will allow all seeds to be in a centrally located area that can be treated at a later date if the need arises.

2.15 Archaeology

2.15.1 Archaeological, Paleontological and Historical Sites

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer

assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

2.15.2 Historic Properties

Historic properties in the vicinity of this project are protected by federal law. In order to ensure that they are not damaged or destroyed by construction activities, the project proponent and construction supervisors shall ensure that the following stipulations are implemented.

2.15.2.1 Professional Archaeological Monitoring

Contact your project archaeologist, or BLM's Cultural Resources Section at (575) 234-2228, 5917, 2236, or 5967, for assistance.

- A. These stipulations must be given to your monitor at least 5 days prior to the start of construction.
- B. No construction, including vegetation removal or other site prep may begin prior to the arrival of the monitor.

2.15.2.2 Monitor Duties

The archaeological monitor shall:

- A. Observe all ground-disturbing activities within 100 feet of cultural site
- B. Ensure that all reroutes are adhered to avoid cultural site
- C. Submit a brief monitoring report within 30 days of completion of monitoring

2.15.3 Site Protection and Employee Education

It is the responsibility of the project proponent and his construction supervisor to inform all employees and subcontractors that cultural and archaeological sites are to be avoided by all personnel, vehicles, and equipment; and that it is illegal to collect, damage, or disturb cultural resources on Public Lands.

2.16 Welding

The following precautions will be taken for all arc and/or gas welding operations, and operations where oxy-acetylene cutting and brazing are done in a wildland fire environment.

1. At the work site, clear away all flammable vegetation down to mineral soil for a minimum radius of 6 feet around where the welding/cutting will take place. This includes grasses and other vegetative material.
2. While conducting the welding/cutting operations, the operator will have within 25 feet of the welding/cutting site:
 - Five (5) gallons of water and/or;
 - A five (5) pound multi-purpose dry fire extinguisher and a round point shovel.
3. After welding/cutting activities are completed, a routine return to the site will be required within 1 hour after the completion of the activity to check for any potential hot material that may start a wildland fire.

4. Operators and contractors are reminded that they may be held responsible for any wildland fire that starts from welding/cutting operations. This includes all cost for suppressing any wildland fire that starts from these activities.

2.17 Seed Mixtures

2.17.1 Seed Requirements

The holder shall seed all disturbed areas with the appropriate seed mixture found in Section 3 of this appendix. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

2.17.2 Seeding Methods

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

2.18 Drilling

2.18.1 Waste Material And Fluids

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

3 Seed Mixtures Currently Used for Ecological Sites

BLM SERIAL #:

COMPANY REFERENCE:

3.1 Seed Mixture 1, for Loamy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains lovegrass (<i>Eragrostis intermedia</i>)	0.5
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1.0
Sideoats grama (<i>Bouteloua curtipendula</i>)	5.0
Plains bristlegrass (<i>Setaria macrostachya</i>)	2.0

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

BLM Serial #:

Company Reference:

3.2 Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

*Pounds of pure live seed: Pounds of seed x percent purity x percent germination = pounds pure live seed

BLM SERIAL #:

COMPANY REFERENCE:

3.3 Seed Mixture 2, for Sandy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

<u>Species</u>	<u>lb/acre</u>
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1.0
Sand love grass (<i>Eragrostis trichodes</i>)	1.0
Plains bristlegrass (<i>Setaria macrostachya</i>)	2.0

*Pounds of pure live seed: Pounds of seed x percent purity x percent germination = pounds pure live seed

BLM SERIAL #:

COMPANY REFERENCE:

3.4 Seed Mixture 3, for Shallow Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains Bristlegrass (<i>Setaria magrostachya</i>)	1.0
Green Spangletop (<i>Leptochloa dubia</i>)	2.0
Side oats Grama (<i>Bouteloua curtipendula</i>)	5.0

*Pounds of pure live seed: Pounds of seed x percent purity x percent germination = pounds pure live seed

BLM SERIAL #:

COMPANY REFERENCE:

3.5 Seed Mixture 4, for Gypsum Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

<u>Species</u>	<u>lb/acre</u>
Alkali Sacaton (<i>Sporobolus airoides</i>)	1.0
DWS Four-wing saltbush (<i>Atriplex canescens</i>) (DWS: DeWinged Seed)	5.0

*Pounds of pure live seed: Pounds of seed x percent purity x percent germination = pounds pure live seed

Appendix C

Existing Rights-of-Way in the Project Area

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Summary of ROWs within the Project Boundary: Oil and Gas Pipelines

Lease / Reference Number	Owner / Operator	Description	Status	Construction	ROW	Location			Contact Information
						Township/Range	Section	1/4 1/4	
NMLC 0057709	New Mexico Gas Co. (PNM)	High Pressure Natural Gas Pipeline	In Service	10" Main; 6" & 2: Spur 18.27 miles in length	50'	T21S R29E	11	E2NW	1625 Rio Bravo SW Ste. 27, ABQ, NM 888/664-2726
						T20S R30E	4	NESE	
							9	E2NE,NENW	
							10	W2SW	
							15	W2W2	
							22	W2W2	
							27	NW,E2SW,SESW	
							28	SESE	
							33	E2NE	
							34	S2NW	
NMLC 0060762	Enterprise Field Services, LLC	Gas Pipeline	In Service	12 3/4" or 8 5/8" diameter 20.1 miles in length	50'	T20S R30E	29	NWSE,S2SW,N2SE SESW,S2SE	PO Box 4324, Houston, TX 77210-4324
NMLC 0063168	Navajo Refining Co	Oil Pipeline	Closed	4 1/2" pipeline	50'	T20S R30E	705	NWNE,E2W2	PO Box 159, Artestia, NM 88211-0159
						708	E2W2		
NMLC 0063241D	Western AG Minerals	OIL & Gas Pipeline	Closed	10' x 448' easement		T20S R30E	25	SWSW	PO Box 511, Carlsbad, NM 88220
NMNM 000541	Occidental Permian LP	Oil Pipeline	In Service	3 miles in length. 3in diameter pipe	50'	T20S R30E	10	E2SE	5 E Greenway Plaza #110, Houston, TX 77046-0521
							11	NWSW	
							15	N2NE,SWNE,E2SW, & NWSE	
							21	SWSE, E2SE	
							22	N2NW,SWNW,NWSW	
							28	N2NE,SWNE,SENW	
NMNM 001054	Gas Co of NM	Gas Pipeline	Closed	2" diameter pipe 2.001 miles in length	30'	T20S R30E	33	S2S2	
							34	S2SW	
NMNM 002418	Gas Co of NM	Gas Pipeline 4" diameter	In Service	1.740 miles in length	50'	T21S R29E	3	Lot 1,5,6,7,21	
NMNM 004704	Gas Co of NM	Gas Pipeline	Relinquished	2" in Diameter 1.460 miles in length	50'	T20S R29E	25	SWNE,N2SE,SESE	Alvarado Sq, Albuquerque, NM 87157-0104
						T20S R30E	30	Lot 4	Alvarado Sq. Albuquerque, NM 875157-0104
NMNM 006763	Gas Co of NM	Gas Pipeline	In Service	2" diameter pipe 2.152 miles in length	30'	T19S R30E	21	NESE	Alvarado Sq. Albuquerque, NM 875157-0104
							22	N2S2	
							23	S2NE,NWSE,N2S2	
NMNM 013456	Duke Energy Field Services (DCP)	High Pressure Natural Gas Line	In Service	4 - 6" buried Steel 2.063 miles in length	50'	T19S R30E	29	SWSW	10 Desta Drive, Ste #400 W, Midland, TX 79705 432/620-4058 432/620-6765
							33	W2SW,SESW	
NMNM 016170	Duke Energy Field Services (DCP)	High Pressure Natural Gas Line	In Service	12" buried Steel	50 ft	T20S R30E	4	SESE	10 Desta Drive, Ste #400 W, Midland, TX 79705 432/620-4058 432/620-6765
						T20S R31E	6	Lot 7, NESE,S2SE, SESW	
						T20S R30E	1	SESE	
							11	S2N2,NWSW	
							12	N2N2,SWNW	
NMNM 013761	Duke Energy Field Services (DCP)	High Pressure Natural Gas Line	In Service	4 - 6" buried Steel 5.414 miles in length	50'	T20S R31E	18	Lots 3,4, SESW	
						T20S R30E	2	SESW	
							3	S2SW	
							4	NESE	
							10	NE,NENW	
							11	W2NW,N2SW,W2SE, SESE,NENW	
							13	SWNE,E2NW,NWNW, N2SE	
							14	NENE	
NMNM 016028	Duke Energy Field Services (DCP)	High Pressure Natural Gas Line	In Service	8" buried Steel 12.362 miles in length	50 ft	T20S R29E	23	SESE	10 Desta Drive, Ste #400 W, Midland, TX 79705 432/620-4058 432/620-6765
							24	SENE,N2SE,NESW, S2SW	
							26	N2NE,NENW,S2NW	
							27	SENE,N2SE,NESW, S2SW	
							10	S2SE,NESE,SESW	
							11	NWSW	
							15	N2NW	
NMNM 018137	Gas Co of NM	Nat Gas Pipeline	In Service	4" diameter pipe 1000' in length	50'	T20S R30E	22	NESW,S2SW	Alvarado Sq, Albuquerque, NM 87157-0104

Summary of ROWs within the Project Boundary: Oil and Gas Pipelines

Lease / Reference Number	Owner / Operator	Description	Status	Construction	ROW	Location		Contact Information
						Township/Range	Section	
NMNM 019323	Enterprise Field Services, LLC	Nat Gas Pipeline	In Service	6 5/8" in diameter 4255 ft in length	50'	T20S R30E	29	Four Greenway Plaza, Houston, TX 77046
NMNM 019337	Enterprise Field Services, LLC	Nat Gas Pipeline	In Service	4 1/2" diameter 418 ft in length	50'	T20S R30E	29	Four Greenway Plaza, Houston, TX 77046
NMNM 019553	PNM (NMG)	High Pressure Natural Gas Line	In Service ₂	4-6" buried Steel 8.742 miles in length	50 ft	T20S R30E	9	1625 Rio Bravo SW Ste. 27, ABQ, NM 888/664-2726
							10	
							15	
							22	
							27	
NMNM 021420	Enterprise Field Services, LLC	Nat Gas Pipeline	In Service	4 1/2" diameter 2448 ft in length	50'	T20S R30E	3	Four Greenway Plaza, Houston, TX 77046
							E2W2	
NMNM 021986	PNM Gas Services	Nat Gas Pipeline	Closed	10" diameter pipe 15.595 miles in length	50'	T19S R30E	20	Alvarado SQ MS 2101, Albuquerque, NM 87158-2101
Re-Authorized as NMNM - 112801							NWNW	
NMNM 022537	Duke Energy SVC LP	Gas Pipeline	In Service	4" diameter pipe 3577' in length	50'	T20S R30E	21	10 Desta Dr. #400 W, Midland, TX 79705 432/620-4058 432/620-6765
NMNM 033981	EPNG CO Land Dept Gas Co of NM	Gas Pipeline	Closed	4 1/2" diameter pipe	33 ft	T20S R30E	29	PO Box 1087, Colorado Springs, CO 80944
NMNM 029065		Gas Pipeline	Closed	4" diameter pipe	50'	T20S R30E	33	
NMNM 034528	Transwestern Pipeline Co LLC	Pennzoil - Penn Fed #1 Gas Pipeline #1 Adams Fed	Closed	2,047 miles in length 6" diameter pipe 2 miles in length			34	711 Louisiana St #900, Houston TX 77002
					33'	T19S R31E	31	
							SWSE, N2SE, SWSE	
NMNM 037971	EPNG CO Land Dept	Gas Pipeline	Closed	50 ft	50 ft	T20S R30E	29	PO Box 1087, Colorado Springs, CO 80944 PO Box 120, Fritch, TX 79036
NMNM 051107	Natural Gas PPLN Co.	Gas Pipeline (Bass Big Eddy #89)	Closed	4" diameter 6.589 miles in length	50'	T20S R31E	18	
						T20S R30E	23	
							SES, NESE, S2SE	
							S2NE, SENW, N2SW	
							N2NW	
							NENE, S2N2, NWSW	
							28	
							S2SW, N2SE, SWSE	
NMNM 063149	Yates Petro Corp	Gas Pipeline State Co. #1	In Service	6" diameter pipe 2.890 miles in length	25'	T19S R31E	31	105 S 4th St Artesia, NM 88210
NMNM 065828	Marathon Oil Co	Oil & Gas Pipeline	In Service	3" diameter 5.241 miles in length	50'	T20S R29E	15	PO Box 3128 Houston, TX 77253-3128
NMNM 065835	Eddy Potash Inc	Gas Line Ujano Gas Line Tie	In Service	4" diameter pipe 1300 ft in length	25'	T20S R30E	4	PO Box 31, Carlsbad, NM 88220
NMNM 065862	Occidental Permian LP	Oil & Gas Pipeline (Emperor Fed Gas Com #1)	In Service	4 1/2" diameter pipe 1500' in length	30'	T20S R30E	21	5 E Greenway Plaza, #110, Houston Tx 77046-0521
NMNM 073095	Duke Energy Field SVCS SW	Gas Pipeline	In Service	8" diameter pipe 13.428 miles in length	30'	T20S R29E	15	PO Box 5493, Denver, CO 80217 10 Desta Drive, Ste #400 W, Midland, TX 79705 432/620-4058 432/620-6765
NMNM 082248	Duke Energy Field Services (DCP)	Gas Pipeline	In Service		50'	T19S R30E	26	
							N2S2	
							N2S2, SWSW	
							S2S2, NESE	
							SESE	
NMNM 085181	Associated Natural Gas	Natural Gas Pipeline (Fortson - Sylville Fed #1)	In Service	4" Diameter pipe 4210 ft in length	50'	T20S R30E	6	PO Box 5493, Denver, Co 80217
NMNM 085215	Phillips 66 Nat. Gas	Nat Gas Pipeline	Closed	8" Diameter	50'	T20S R30E	6	4001 Penbrook #324, Odessa, TX 79762
NMNM 088457	GPM Gas Corp	Buried Gas Pipeline	Closed	6" Diameter Pipe	50'	T 20S R30E	21	4001 Penbrook #324, Odessa, TX 79762
							W2SE	
							NWNE, E2NW	
NMNM 088631	GPM Gas Corp	Buried Gas Pipeline	Closed	10" Diameter Pipe	50'	T20S R29E	13	4001 Penbrook #324, Odessa, TX 79762
							N2NE, SESE, NESE	
							NESW, NWSE	
NMNM 088646	GPM Gas Corp	Buried Gas Pipeline	Closed	8" Diameter Pipe	50'	T 20S R30E	29	4001 Penbrook #324, Odessa, TX 79762
							S2NW, NWSW	
							N2SE	
NMNM 093096	Duke Energy SVCS SW Inc	Buried Natural Gas Line	In Service	6" diameter pipe 4224 ft in length	50'	T20S R30E	28	PO Box 5493, Denver, CO 80217
							S2NW	
							N2SE	
NMNM 093357	V F Petro Inc	Natural Gas Pipeline	In Service	30" Diameter 1.136 miles in length	30'	T20S R30E	21	PO Box 1889, Midland, TX 79702
							SESE	
							SW	
							N2NE, E2NW	
NMNM 0558091	Gas Co of NM	Gas Pipeline	In Service	501.6 ft in length	50'	T20S R30E	34	Alvarado SQ Albuquerque, NM 871570104

Summary of ROWs within the Project Boundary: Oil and Gas Pipelines

Lease / Reference Number	Owner / Operator	Description	Status	Construction	ROW	Location			Contact Information
						Township/Range	Section	1/4 1/4	
NMNM 093385	TX -NM Pipeline Co.	Buried Oil Pipeline	Closed	4 or 6" diameter pipe 21.283 miles in length	30'	T19S R30E	23	SESW,N2SE,SWSE	PO Boc 2528, Hobbs, NM 88241-2528
							26	N2NW	
							27	N2NE,E2NW,SW	
							33	E2NE,SWNE,E2SW, SWSW,NWSE	
						T20S R29E	34	NWNW	
							14	N2NW	
							15	NENE,S2NE,SESW, N2SW	
						T20S R30E	4	Lot 4	
							5	Lots 1,2, SWNE,S2NW	
							6	Lot 7,SENE,SESW, N2SE,SWSE	
							7	Lot 1	
NMNM 098274	Hanley Petroleum Inc	Pipeline Hanley St 32 #1	In Service	3in diameter 2.731m length 300x300' well pad	30'	T19S R31E	31	SESW, NESE, S2SE	415 W Wall #1500 Midland TX 797014473
NMNM 098547	Duke Energy SVC LP	Gas Pipeline	In Service	4" diameter pipe 273.7 ft in length	50'	T19S R30E	20	E2SW	10 Desta Dr. #400 W, Midland, TX 79705 432/620-4058 432/620-6765
NMNM 109872	Duke Energy Field Service LP	Buried Gas Poly Line	In Service	6" Diameter pipe 1405.2 ft in length	50'	T20S R30E	33	S2NW	10 Desta Dr. #400 W, Midland, TX 79705 432/620-4058 432/620-6765
NMNM 109882	Duke Energy Field Service LP	Oil & Gas	Closed			T20S R30E	28	S2NW, W2SW	10 Desta Dr. #400 W, Midland, TX 79705 432/620-4058 432/620-6765
RW-15189	Navajo Refining Company	Crude Oil	In Service	4" buried Steel3	30 ft	T20S R30E	33	W2SW	501 E Main St, Artesia, NM 88210 575/748-3311
							20	E2SW	
							29	N2	
							32	NE	
NMNM 110751	Duke Energy Field Service LP	Buried Steel Gas Pipeline	In Service	4" Diameter pipe 508 ft in length	30'	T20S R29E	13	NESE	10 Desta Dr. #400 W, Midland, TX 79705 432/620-4058 432/620-6765
NMNM 110763	Duke Energy Field Service LP	Gas Pipeline	In Service	4" diameter pipe 1.449 miles in length	50'	T20S R29E	13	NENE	10 Desta Dr. #400 W, Midland, TX 79705 432/620-4058 432/620-6765
						T20S R30E	7	Lot 4-6	
NMNM 111272	Duke Energy Field Service LP	Buried Steel Gas Pipeline	In Service	4" diameter pipe 515.4 ft in length	50'	T20S R29E	13	NESE	10 Desta Dr. #400 W, Midland, TX 79705 432/620-4058 432/620-6765
NMNM 111888	Duke Energy Field Service LP	Buried Steel Gas Pipeline	In Service	4" Diameter pipe 350ft in length	50'	T20S R30E	21	NWSE	10 Desta Dr. #400 W, Midland, TX 79705 432/620-4058 432/620-6765
NMNM 112775	Duke Energy Field Service LP	Buried Poly Gas Pipeline	In Service	4 or 6" diameter pipe 1.73 miles in length	50'	T20S R30E	28	N2NW,W2SW	10 Desta Dr. #400 W, Midland, TX 79705 432/620-4058 432/620-6765
							29	NESE	
NMNM 114235	DCP Midstream, LP	Buried Steel Gas Pipeline	In Service	3" Diameter Pipe 4769.9 ft in length	50'	T20S R30E	21	SESW,W2SE	10 Desta Dr. #400 W, Midland, TX 79705 432/620-4058 432/620-6765
NMNM 0558097	Gas Co of NM	6" Diameter NG Pipeline	In Service	8.204 miles in length	50'	T21S R29E	1	E2NW	432/620-4058 432/620-6765
NMNM 112801	PNM Gas Services	Gas Pipeline (Formerly NMNM-021986)	In Service	10" diameter pipe 16.039 miles in length	50'	T19S R30E	20	NWNW	Alvarado SQ Albuquerque, NM 871570104
		Gas Pipeline (Site - 350'x250')	In Service	3" diameter pipe 179 ft in length	50'				Alvarado SQ MS2101, Albuquerque, NM 87158-2101
NMNM 113304	Edge Petro Operating Inc	Access Road (127'x15') Buried Poly Gas Pipeline	In Service	16,039 miles in length 3" diameter pipe 179 ft in length	50'	T20S R30E	28	SWNW	1301 Travis St. #2000, Houston, TX 77002
NMNM 116719	Duke Energy Field Service LP	Buried Poly Gas Pipeline	In Service	6" diameter pipe 1.141 miles in length	30'	T20S R30E	5	Lot 4	10 Desta Dr. #400 W, Midland, TX 79705 432/620-4058 432/620-6765
							6	Lots 1-4	
NMNM 119837	Enterprise Field Services, LLC	Buried Steel Gas Pipeline	In Service	6" Diameter Pipe 2675.3 ft in length	30'	T20S R30E	4	NWNW	24 Smith Rd #505, Midland, TX 79705
							29	W2SE	
NMNM 125673	New Mexico Gas Co.	Gas Pipeline (Intrepid West Exten)	In Service	Buried Poly Gas Pipe 4900 ft in length	30'	T21S R29E	11	N2SE	PO Box 97500 Albuquerque, NM 871997500
							12	N2SW	
NMNM 0006323	Duval Corp	Oil & Gas Pipeline	Closed	4 1/2" diameter pipe 1.271 miles in length	50'	T20S R30E	34	SESW,S2SE	PO Box 273, Houston, TX 79702
							35	N2SW,SWSW	
NMNM 0014101	Gas Co of NM	Natural Gas Pipeline	In Service	1/2" diameter pipe 1.805 miles in length	50'	T20S R30E	34	SESW,S2SE	Alvarado SQ, Albuquerque, NM 87158-0104
							35	E2NE,SWNE,N2SW, SWSW,NWSE	

Summary of ROWs within the Project Boundary: Oil and Gas Pipelines

Lease / Reference Number	Owner / Operator	Description	Status	Construction	ROW	Location		Contact Information
						Township/Range	Section	
NMNM 0035359	Eddy Potash Inc	Gas Pipeline (to Eddy Potash)	In Service	6" diameter pipe 10.75 miles in length	50'	T19S R30E	26	PO Box 31, Carlsbad, NM 88220
							34	
							35	
						T20S R30E	3	
							4	
NMNM 0161498	Navajo Refining Co	Crude Oil Pipeline	In Service	4" diameter pipe 2.13 miles in length	50'	T20S R30E	20	PO Box 159, Artesia, NM 88211-0159
							28	
							29	
							33	
							23	
NMNM 0500268	Mission Resource Corp Pure Energy Group Inc DCP Midstream, LP	Gas Pipeline	Closed	2 1/2" diameter pipe 1568 ft in length	30'	T20S R30E	23	1331 Lamar #1455, Houston, TX 77010
							2	
							2	
							2	
							2	
RW-31480	Buried Steel Gas Pipeline	Buried Steel Gas Pipeline	In Service	4" diameter pipe	30'	T20S R30E	2	10 Desta Dr. #400 W, Midland, TX 79705 432/620-4058 432/620-6765
							2	
							2	
							2	
							2	
M-01758	Continental Pipeline Co.	Gas Pipeline	In Service??	???	30'	T19S R30E T20S R30E	32	???
							17	
							20	
							19	
							19	
RW-28899	Duke Energy Field Service LP	Buried Steel Gas Pipeline	In Service	4" diameter pipe	30'	T20S R30E	18	10 Desta Dr. #400 W, Midland, TX 79705 432/620-4058 432/620-6765
							19	
							16	
							17	
							18	
RW 17985	Duke Energy Field Service LP	Natural Gas Pipeline	In Service		50'	T20S R30E	19	10 Desta Dr. #400 W, Midland, TX 79705 432/620-4058 432/620-6765
							16	
							17	
							18	
							19	
NMNM 0559887	Amoco Production Co	Gas Pipeline (Bid Eddy Unit to PCA)	Closed	4" diameter pipe 1.72 miles in length	50'	T20S R30E	3	PO Box 68, Hobbs, NM 88241
							4	
							10	
							11	
							11	
M-1017	Public Service Co of NM	Natural Gas Pipeline	In Service	4" pipeline	30'	T21S R29E	11	PO Box 26400, Albuquerque, NM 87125
							11	
							32	
							32	
							32	
RW-30172	Duke Energy Field Services	Gas Pipeline	In Service	6" buried Poly pipeline	30'	T19S R30E	32	10 Desta Dr #400 W, Midland, TX 79705 432/620-4058 432/620-6765
							32	
							32	
							32	
							32	
RW-30132	Duke Energy Field Services	Gas Pipeline	In Service	4" buried Steel pipeline	30'	T19S R30E	32	10 Desta Dr #400 W, Midland, TX 79705 432/620-4058 432/620-6765
							32	
							32	
							32	
							32	
RW-18618	Duke Energy Field Services	Natural Gas Pipeline	In Service	Natural Gas	30'	T20S R30E	16	10 Desta Dr #400 W, Midland, TX 79705 432/620-4058 432/620-6765
							16	
							16	
							16	
							16	
RW-17661	Duke Energy Field Services	Natural Gas Pipeline	In Service	buried pipeline	50'	T19S R30E	32	10 Desta Dr #400 W, Midland, TX 79705 432/620-4058 432/620-6765
							32	
							32	
							32	
							32	
RW-16349	Public Service Co of NM	Natural Gas Pipeline	In Service	6" Steel pipeline	50'	T21S R29E	2	PO Box 26400, Albuquerque, NM 87125
							2	
							2	
							2	
							2	
RW-28791	Duke Energy Field Services	Gas pipeline	In Service	4" buried Steel	30'	T20S R30E	18	10 Desta Dr #400 W, Midland, TX 79705 432/620-4058 432/620-6765
							18	
							18	
							18	
							18	
RW-28704	Duke Energy Field Services	Gas pipeline	In Service	4" buried Steel	30'	T20S R30E	18	10 Desta Dr #400 W, Midland, TX 79705 432/620-4058 432/620-6765
							18	
							18	
							18	
							18	
RW-23815	GPM Gas Corp	Natural Gas Pipeline	In Service	8" diameter	33'	T19S R30E	32	4001 Penbrook #324, Odessa, TX 79762
							32	
							32	
							32	
							32	
RW-24771	GPM Gas Corp	Gas pipeline	Cancelled	10" diameter pipe	33'	T20S R30E	18	4001 Penbrook #324, Odessa, TX 79762
							19	
							29	
							30	
							30	

Summary of ROWs within the Project Boundary: Roads

Lease / Reference Number	Owner / Operator	Description	Status	Construction	ROW	Location		Contact Information	
						Township/Range	Section		
NMLC 0044461	Mississippi Chem Inc AT & SF Railway Co. (BNSF)	Tram & Log Road	Closed	Mine Tram Road	50'	T21S R29E	11	SESE	PO Box 101, Carlsbad, NM 88220
NMLC 0048496		Railroad Track	In Service	Railroad Track	200 ft	T20S R29E	25	SESW,S2SE	900 Polk St., Amarillo, TX 79179
						T20S R30E	35	N2	800-795-2673
							4	S2	
							5	SESE	
							8	NE,SESW,W2SE	
							30	Lots 3,4, NESW	
NMLC 0050055	NM State HWY Dept	HWY 62/180 with Barrow Pits	In Service	Road - 15.864 miles in length	150'	T21S R29E	1	Lots 1-5 & SENW	PO Box 1149 Santa Fe, NM 87501
						T20S R29E	35	SENE, S2SW, W2SE, NESE	
						T20S R30E	33	S2S2	
NMLC 0060174	NM State HWY Dept	Road - ST HWY 31	In Service	13.248 miles in length	100'	T21S R29E	3	Lots 3,6,7,9,10,15,16 & NESE	PO Box 1149 Santa Fe, NM 87501
							11	W2NE,SENE,NENW, NESE	
							12	W2SWSE	
NMNM 002668	NM State HWY Dept	Road - HWY 62/180	In Service	2.614 miles in length	100', 150'	T21S R29E	1	Lots 1,2,5-8	PO Box 1149, Santa Fe, NM 87501
							3	Lot 1	
NMNM 008385	NM State HWY Dept	US HWY 62/180	active	147.84' length	100'	T21S R29E	1	Lots 2,3	PO Box 1149 Santa Fe, NM 87501
NMNM 028206	AT & SF Railway Co.	Railroad	In Service	30 miles in length	50'	T20S R30E	13	S2SE	900 Polk St, Amarillo, TX 79171
							24	NWNE,N2NW,SWNW, W2SW	
							25	W2W2	
NMNM 036530	Eddy County	Road	In Service	Rd #144-A 1886 ft in length	60 ft	T20S R30E	20	N2SE	PO Box 1139, Carlsbad, NM 88221-1139
NMNM 052872	NM State HWY Dept	Road - St HWY 355	In Service	1 mile in length	100'	T21S R29E	1	Lot 2	PO Box 1149 Santa Fe, NM 875041149
						T20S R30E	35	E2E2	
NMNM 053711	NM State Highway Dept	State HWY 31	In Service		100 ft	T19S R 31E	31	Lot 4, E2SW, NWSE	P.O. Box 1149, Santa Fe, NM 87504
						T19S R30E	34	E2SE,SWSE	505/827-5608
							35	N2S2	
						T20S R30E	3	S2NW,W2SW, Lot 2,3	
NMNM 070782	Union TX Petro Corp	Off Lease Access Gravel Road	Closed _s	Road No Longer Needed	30 ft	T19S R30E	35	NE,SENW,,NESW	P.O. Box 671, Midland, TX 79702
NMNM 072674	Yates Petro Corp	Road - Off - Lease Access Rd	In Service	3.030 miles in length	30'	T29S R29E	14	SWNE,NENW,N2SE	105 S 4th St, Artesia, NM 88210
								SESE	
							23	NENE	
NMNM 072679	Harvey E Yates Co	Road	Closed	Off Lease Access Road		T20S R30E	25	NE	PO Box 1933, Roswell, NM 88202-1933
NMNM 072775	CNG Production Co.	Off Lease Access Gravel Road	In Service	Gravel	30'	T20S R31E	6	SWNE,NWSE,NESW	1450 Poydras St, New Orleans, LA 70112
							6	Lot 2,3,6	(504) 299-1071
						T19S R 31E	31	SESW	
						T20S R30E	1	NESE,S2SE	
NMNM 072776	Western AG-Mineral	Road	Closed	8.895 MILES IN LENGTH	100'	T21S R29E	1	Lots 2,7-9	PO Box 71 Carlsbad, NM 88221
NMNM 073084	Burlington Res Oil & Gas Co	Road	In Service	Off Lease Access Road	30'	T20S R29E	14	NENW,E2	PO Boc 51810, Midland, TX 79710-1810
				5.454 miles in length			23	E2NE	
NMNM 073088	Santa Fe Energy Co	Road	In Service	Off Lease Access Road	30'	T20S R29E	14	NENW,E2	7200 I-40 W, Amarillo, TX 79106
				5.152 miles in length			23	E2NE	
NMNM 077816	Magnum Hunter Production Inc	Road	In Service	Off Lease Access Road	30'	T20S R29E	14	N2,SE	5215 N O'Conner Blvd #1500, Irving, TX 75039-3764
				3.144 miles in length			23	NENE	
NMNM 077868	Williamson J C	Road	In Service	Off Lease Access Road	35'	T20S R29E	14	NENW, E2	PO Box 16, Midland, TX 79701
				2.159 miles in length			23	NENE	
NMNM 077938	Marathon Oil Co	Road	In Service	Off Lease Access Road	30'	T20S R29E	14	E2	P.O. Box 3128, Houston, TX 77253
				1.21 miles in length			23	E2NE	713-629-6600
NMNM 077939	Marathon Oil Co	Road	In Service	Off Lease Access Road	30'	T20S R29E	15	E2SW	P.O. Box 3128, Houston, TX 77253
				3100 ft in length			23	NENW	713-629-6600
NMNM 082161	NM State HWY Dept	Road	Closed	Temp Constr. Site (Ref. NM-084159)		T21S R29E	1	S2NW, Lot 2	PO Box 1149 Santa Fe, NM 875041149
				Off Lease Access Road			3	Lot 2	
NMNM 082182	Westall Ray	Road	In Service	Off Lease Access Road	40'	T20S R29E	14	E2,NENW	PO Box 4, Loco Hills, NM 88255
				4.36 miles in length			23	NENE	
				Off Lease Access Road			15	S2NW,E2SW	105 S 4th St, Artesia, NM 88210
NMNM 082479	Yates Petro Corp	Road	In Service	Off Lease Access Road	30'	T21S R29E	22	NENW	
NMNM 082493	Sonny's Oilfield Svc	Road	Pending as of 00	1.098 miles in length 70' length	75'	T21S R29E	1	Lot 15	PO Box 1438 Hobbs, NM 88240

Summary of ROWs within the Project Boundary: Roads

Lease / Reference Number	Owner / Operator	Description	Status	Construction	ROW	Location		Contact Information
						Township/Range	Section	
NMNM 084159	US DOT	Road HWY 62/180 cross ref w/ nm82161 Road	In Service	100' 200' LENGTH	50' & 20'	T21S R29E	1	PO Box 1088 Santa Fe, NM 87504-108
NMNM 084538	Fortson Oil Co.		Closed	Off Lease Access Road 6.352 miles in length	35'	T20S R29E	14	301 Commerce #3301, Fort Worth, TX 76102-4133
							23	
						T20S R30E	6	
NMNM 085251	Mississippi Chemical Inc	Road - haul road	In Service	700' length	30'	T21S R29E	1	PO Box 101 Carlsbad, NM 88220
NMNM 088017	Yates Petro Corp	Road - Off Lease Access Road Rd to Foundation Fed #1	In Service	1,477 miles in length	30'	T20S R30E	11	105 S 4TH ST, Artesia, NM 88210
							14	
							15	
NMNM 089636	DCP Midstream, LP	Road	In Service	Access Road 17.056 miles in length	30'		14	10 Desta Dr #400W, Midland, TX 79705
						T20S R29E	23	
							SESE	
NMNM 089695	Yates Drilling Co, Et Al	Road - Access Road	In Service	10.940 miles in length	30'	T19S R30E	29	105 S 4th St, Artesia, NM 88210
NMNM 089722	BP America Production Co.	Road	In Service	Off Lease Access Road 20.75 miles in length	30'		21	501 Westlake Park Blvd, Houston, TX 77079
						T20S R30E	28	
							SW,NESE	
NMNM 090187	BECO LP	Road	In Service	Off Lease Access Road 13.189 miles in length	30'	T20S R31E	6	201 Main St, Fort Worth, TX 76102-3131
							Lots 2,3	
							SWNE,N2SE,SESW	
NMNM 090168	Marathon Oil Co	Road	In Service	Off Lease Access Road 70 miles in length	14'	T19S R 31E	31	PO Box 3128, Houston, TX 77253-3128
						T20S R29E	14	
							SESW	
NMNM 090196	Whiting OG Corp	Road	In Service	Off Lease Access Road 124.05 miles in length	30'		14	1700 Broadway #2300, Denver, CO 80290-2300
						T20S R29E	14	
							W2NE,NENW,E2SE,NWSE	
NMNM 090206	Magnum Hunter Production Inc	Road	In Service	21.216 miles in length	30'		23	5215 N. O'Conner Blvd #1500, Irving, TX 75039-3764
						T20S R30E	23	
							E2NE	
NMNM 090338	Yates Petro Corp	Road	In Service	Off Lease Access Road 2.424 miles in length	30'		5	105 S 4th St, Artesia, NM 88210
						T20S R31E	6	
							N2S2,W2NE,NENW	
NMNM 090392	Spence Energy Co	Road	In Service	1006.7 ft in length	30'	T19S R 31E	31	4849 Greenville #381, Dallas, TX 75206
							SESW	
						T20S R30E	1	
NMNM 104058	EOG Resources	Road	In Service	Access Road	20'		12	PO Box 5270, Hobbs, NM 88241
							NENW	
							W2SE	
NMNM 115961	Lynx Petro Consultants Inc	Roads	In Service	1.12 miles in length Hackberry Fed #1	30'	T19S R30E	35	3510 N A ST BLDG B # 100, Midland, TX 79705-5428
							NENE,S2NE,SESW,NESW	
							W2NE,NENW,N2SE,SESE	
NMNM 125376	Shackelford Oil Co.	Road	In Service	4.47 miles in length	20'		23	P.O. Box 1149, Santa Fe, NM 87504 505/827-5608
						T20S R29E	23	
							E2NE	
NMNM 125714	Mewbourne Oil Co	Road	In Service	Paved Road 11.355 miles in length	150 ft		21	
						T19S R30E	21	
							E2E2	
NMNM 0004399	NM State Highway Dept	RD-State HWY 360	In Service		400'		27	PO Box 1149 Santa Fe, NM 875041149
							W2SWSW	
							E2E2	
NMNM 0009252	Mississippi Chemical Inc	Tram & Log Road - Underground Tram Road	In Service	960.5' length	200'		33	PO Box 1149 Santa Fe, NM 875041149
						T20S R30E	33	
							W2W2	
NMNM 0014665	NM State HWY Dept	Road - ST HWY 360	In Service	1970 ft in length	75'/100'		3	PO Box 1149 Santa Fe, NM 875041149
							Lot 2	
							W2W2	
NMNM 0024381	NM State HWY Dept	Material Site	Closed	600' x 1100'	100'		3	PO Box 1149 Santa Fe, NM 875041149
							NESE	
							E2NE,N2SE,SWSE	
NMNM 0024383	NM State HWY Dept	Road HWY 31	In Service	269.28 ft in length	200'		21	PO Box 1149 Santa Fe, NM 875041149
							N2NW,SWNW,NWSW	
							SWSW,E2SE,NWSE	
NMNM 0024384	NM State HWY Dept	Road HWY 31	In Service	3,430 miles in length	40'		29	PO Box 1149 Santa Fe, NM 875041149
							Lots 7,9,10	
							W2NE,NENW	
NMNM 0024852	NM State HWY Dept	HWY	In Service	978.36ft length	100'		3	PO Box 1149; Santa Fe, NM 875041149
							Lot 17,21	
							Lot 1,17,18,19,22,25	
NMNM 0107767	NM State HWY Dept	Haul Road for Barrow Pit	In Service	0.498 miles in length	100'		33	PO Box 1149; Santa Fe, NM 875041149
							SESW,SWSE	
NMNM 0107775	NM State HWY Dept	HWY 62/180	In Service	6.322 miles in length			3	
							Lot 1,17,18,19,22,25	
							SESW,SWSE	

Summary of ROWs within the Project Boundary: Roads

Lease / Reference Number	Owner / Operator	Description	Status	Construction	ROW	Location		Contact Information
						Township/Range	Section	
RWD 936	NM State Highway Dept	Gravel Road	In Service		200 ft	T19S R30E	36	P.O. Box 1149, Santa Fe, NM 87504 505/827-5608
Unknown - Eddy Co. Road 235	Eddy County Office	Gravel Road	In Service	Gravel	??	??	??	P.O. Box 1139, Carlsbad, NM 88221 877-887-6595
Eddy Potash Driveway	Eddy Potash, Inc	Driveway	In Service	Paved Road	??	??	??	PO Box 31, Carlsbad, NM 88220
Fed. Lease	Shackelford Oil	Driveway	In Service	Gravel Road	??	??	??	P.O. Box 10665, Midland, Tx 79702
NMLC 0029096C & NMLC 0029096A								
Unknown - Burton Flats Rd	Eddy County Office	Gravel Road	In Service	Gravel Road	??	??	??	P.O. Box 1139, Carlsbad, NM 88221 877-887-6595
Unknown - Eddy Co. Road 238	Eddy County Office	Gravel Road	In Service	Gravel Road	??	??	??	P.O. Box 1139, Carlsbad, NM 88221 877-887-6595
Unknown - Eddy Co. Road 239	Eddy County Office	Gravel Road	In Service	Gravel Road	??	??	??	P.O. Box 1139, Carlsbad, NM 88221 877-887-6595
Fed. Lease NMNM-0251	Chesapeake Operating, Inc.	Gravel Road	In Service	Gravel Road		??	??	800.566.9306
Unknown - Eddy Co. Road 238 A	Eddy County Office	Gravel Road	In Service	Road	??	??	??	P.O. Box 1139, Carlsbad, NM 88221 877-887-6595
Private Driveway	Jim Richardson	Gravel Road	In Service	Gravel Road	??	??	??	
RWD 601	Atchison, Topeka, & Santa Fe Railway Co. (BNSF)	Railroad Track	In Service	Railroad Track	150 ft	T20S R30E	17 19 20 30	900 Polk St., Amarillo, TX 79179 800-795-2673
RW 17755	NM State Highway Dept	State Hwy 360	In Service	Paved Road	100 ft	T20S R30E	16 29 32	P.O. Box 1149, Santa Fe, NM 87504 505/827-5608
M-1399	NM State Hwy Dept.	Road	In Service	Road	200'	T21S R29E	2 11	PO Box 1149 Santa Fe, NM 87501
M-13410	A. T. & SF Railway Co	Railroad	In Service	Railroad	200'	T20S R30E	36	900 Polk St. Amarillo, TX 79179 800-795-2673
RW-15069	A.T. & SF Railway Co	Railroad	In Service	Railroad	200'	T20S R30E	36 25	900 Polk St. Amarillo, TX 79179 800-795-2673
M-13718	US Potash	Road	In Service	Ore Haul Road	100'	T20S R30E	36	1996 Potash Mine Rd, Carlsbad, NM
M-3078	A.T. & SF Railway Co	Railroad	In Service	Railroad	100'	T20S R30E	36 32	900 Polk St. Amarillo, TX 79179 800-795-2673

Summary of ROWs within the Project Boundary: Power Lines

Lease / Reference Number	Owner / Operator	Description	Status	Construction	ROW	Location		Contact Information	
						Township/Range	Section	1/4 1/4	
NMMLC 0046166	US Potash & Chem	Power Tran Line	Closed	0.48KV	40'	T21S R29E	12	W2SE	PO Box 101, Carlsbad, NM 88220
NMMLC 0065239	Southwestern Pub SVC	Power Tran Line	In Service	13,930 miles in length Varies average - 715kv trans line & substations 49.56 miles in length	30' to 80'	T21S R29E	1	Lots 7,8,10-13	P.O. Box 1281; Amarillo, TX 79170
							3	Lots 1,8,9,16 NWNW	
						T20S R30E	11	E2W2	
							9	W2NE, NWSE, S2SE	
							21	E2E2	
							28	E2NE, NESE	
							33	W2SW	
							34	SENE	
NMNM 015148	Southwestern Public SVC	Power Tran Line (to William Snyder Ranch)	In Service	12.47 KV - Overhead 411.84' in length	30'	T20S R30E	28	SENE	PO Box 1937, Roswell, NM 88202-1937
NMNM 016912	Southwestern Public SVC	Power Tran Line	In Service	7.2 or 12.47 kv 3600 ft in length	15'	T20S R30E	10	SESW, E2SE, SWSE	PO Box 1937, Roswell, NM 88202-1937
NMNM 017937	Southwestern Public SVC	Power Tran Line	In Service	7.2 KV 3600 ft in length	15'	T20S R30E	11	S2NW, NWSW	PO Box 1937, Roswell, NM 88202-1937
NMNM 025390	Southwestern Public Service	Overhead Power Line	In Service	1,078 miles in length 115 KV	60 ft	T20S R29E	25	NWNE, E2W2, SWSW	P.O. Box 1937, Roswell, NM 88202 (806) 378-2121
							13	N2NE, E2NW, SWNW, NWSW	
						T20S R30E	14	E2SE, SWSE	
							22	E2SE, SWSE	
							23	NWNE, E2NW, SWNW, NWSW	
						T20S R31S	27	NWNE, E2NW, SWNW, NWSW	
							13	N2N2	
							14	N2N2	
							15	N2N2	
							7	S2SE	
						T20S R30E	18	Lot 1, NWNE, NENW	
							3	S2SW	
NMNM 029284	Southwestern Public Service	Overhead Power Line	In Service	7.2 KV	30 ft	T20S R30E	10	NWNE, NENW	P.O. Box 1937, Roswell, NM 88202 (806) 378-2121
NMNM 029968	Southwestern Pub SVC	Power Tran Line 7.2kv	In Service	2407.9 ft in length	15'	T21S R29E	1	Lot 2	PO Box 1937 Roswell, NM 882021937
NMNM 030468	Southwestern Pub SVC	Power Tran Line	Closed	115 KV	60'	T21S R29E	3	E2SE	P.O. Box 1937 Roswell, NM 882021937
NMNM 0558159	Southwestern Public SVC	Power Line PCA substation #2	In Service	26,690 miles in length 7.2KV	30'	T20S R30E	33	S2NE	PO Box 1937, Roswell, NM 88202-1937
NMNM 0559401	Southwestern Public SVC	Power Line PCA substation #2	In Service	1354 ft in length 12.47 KV		T20S R30E	33	SWNE	PO Box 1937, Roswell, NM 88202-1937
NMNM 038127	Central Valley Electric	Power Tran Line	In Service	0.136 miles in length 7.2 / 12.47 KV	30'	T19S R31E	31	Lots 3,4 E2SW	PO Box 230 Artesia NM 882110230
NMNM 0559606	Southwestern Public SVC	Power Line	Closed	2403.2 ft in length 7.2 & 12.47KV	30'	T20S R30E	30'	NW	PO Box 1937, Roswell, NM 88202-1937
NMNM 041978	Eddy Potash	Overhead Power Line	In Service??	0.457 miles in length 12.47 KV Elec. Dist. Line	30 ft	T20S R30E	3	SWSW	P.O. Box 31, Carlsbad, NM 88220
							4	NESE	
						T20S R30E	10	N2NW, SENW, N2SW, SESE	
							15	NWNW	
							31	Lots 1-3	
NMNM 060143	Central Valley Electric	Power Tran 7.2 / 12.47kv	In Service	13,362 miles in length	30'	T19S R31E	31	Lots 1-3	PO Box 230 Artesia NM 882110230
NMNM 063170	Southwestern Public SVC	Power Tran Line	Closed	7.2 or 12.4 KV	30'	T20S R29E	15	E2E2	PO Box 1937, Roswell, NM 88202
NMNM 077856	Southwestern Public Service	Power Tran Line 4- wire electric distr. Line	In Service	12.4 KV	30'	T20S R29E	14	W2E2	P.O. Box 1937, Roswell, NM 88202
NMNM 090361	Southwestern Public SVC	Power Line (power supply from am-021511)	In Service	2,328 miles in length 7.2 KV	30'	T20S R30E	23	NWNE	(806) 378-2121
NMNM 090712	Southwestern Public SVC	Power Tran (3- Phase) (to Yates Foundation Alo Fed)	In Service	1455.6 ft in length 12.47 KV	30'	T20S R30E	10	NWSW, S2SW	PO Box 1937, Roswell, NM 88202-1937
NMNM 119020	SPS	Power Tran (3- Phase) Power Tran FLPMA Pecos to Potash Interchange	In Service	1,391 miles in length 230 KV	90'	T20S R30E	10	S2S2	PO Box 1937, Roswell, NM 88202-1937
NMNM 0005473	Southwestern Public SVC	Power Tran Line	Expired	11,259 miles in length 66 & 33 KV 2.9 miles in length	100'	T21S R29E	3	E2SE	PO Box 1261 Amarillo, TX 79170
NMNM 119347	Southwestern Public Service	Power Tran Line	In Service	12.47 KV 446.54 ft in length	30'	T20S R30E	11	W2NE, N2NW, SE	2007 Algerita, Carlsbad, NM 88220
							12	SW, SWSE	
						T20S R31E	35	E2, SW	
							7	Lot 1	
NMNM 120415	SPS	Power Tran Line	In Service	12.4 KV 8.479 miles in length	30'	T20S R29E	13	S2S2	PO Box 1261 Amarillo, TX 79170
							14	S2S2	
						T20S R30E	8	SE	
							9	W2	

Summary of ROWs within the Project Boundary: Power Lines

Lease / Reference Number	Owner / Operator	Description	Status	Construction	ROW	Township/Range	Location	Contact Information
NMNM 124490 (Reauthorized NMNM-063903)	SPS	Power Tran Line	In Service	12.4 KV 4.305 miles in length	90'	T20S R30E	14 SWSW	PO Box 1261, Amarillo, TX 79170
							15 N2SE,SESE	
							23 NWNE,S2NE,N2NW, NESE	
							24 N2SW,SESW,SWSE	
							25 N2NE,SENE	
							30 S2NW,NESW,W2SE, SESE	
NMNM 125099 (Reauthorization of NMNM-005473)	SPS	Power Tran-FLPMA	Pending			T21S R29E	3 E2SE	PO Box 1262 Amarillo, TX 79170
							11 W2NE,N2NW,SE	
							12 SW,SWSE	
NMNM 125100 (Reauthorization of NMNM-005471)	SPS	Power Tran-FLPMA	Pending			T20S R30E	35 E2,SW	PO Box 1262 Amarillo, TX 79170
							21 W2E2,E2W2	
							28 E2W2	
							33 W2	
							4 Lot 4, S2SW	
NMNM 0006471	Southwestern Public SVC	Power Tran Line	Expired	66 KV 4.320 miles in length	100'	T19S R30E	5 Lot 1, SENE,E2SE	PO Box 1937 Roswell, NM 882021937
							21 W2E2,E2SW	
							28 E2W2	
							33 W2	
							4 Lot 4, S2SW	
							5 Lot 1, SENE,E2SE	
NMNM 0006257	Southwestern Public SVC	Power Tran Line	In Service	12.4 KV 1.741 miles in length	100'	T20S R30E	9 SWNE,E2NW,SE	PO Box 1937 Roswell, NM 882021937
							10 SWSW	
							15 NW	
							13 S2S2	
							14 S2S2	
							8 SE	
NMNM 0006344 (Reauthorized NMNM-120415)	Southwestern Public SVC	Power Tran Line	Expired	12.4 KV 8.479 miles in length	100'	T20S R29E	9 W2	PO Box 1937 Roswell, NM 88202-1937
							13 SESE	
							24 E2	
							25 NEW,W2	
							35 NE	
							23 E2E2E2	
NMNM 0006866	Southwestern Public SVC	Power Tran Line	Closed	69 KV 2.566 miles in length	50'	T20S R30E	25 W2SWSW	PO Box 1937, Roswell, NM 88201
							26 E2E2E2	
							35 E2E2NE	
							23 E2E2E2	
							25 W2SWSW	
							26 E2E2E2	
NMNM 0015002	Southwestern Public SVC	Power Tran Line	In Service	7.2 & 12.47 KV 5.567 miles in length	100'	T20S R29E	33 S2NW,NESW,W2SE, SESE	PO Box 1937, Roswell, NM 88201
							3 SESE	
							4 Lot 4, SWNW,W2SW	
							9 E2NE,SE	
							9 SE	
							15 W2NW	
NMNM 0017804 NMNM 0018163	Eddy Potash Inc Southwestern Public SVC	Electric Powerline Power Tran Line PCA Substation #2 Power Tran Line	In Service	1690 ft in length 7.2 & 12.47 KV 1149 ft in length 12.4 KV 3951 ft in length	30' 100' 100'	T20S R30E	14 SWSW	PO Box 31, Carlsbad, NM 88220 PO Box 1937, Roswell, NM 88201 PO Box 1937, Roswell, NM 88201
							15 N2SE,SESE	
							23 N2NW,NWNE,S2NE, NESE	
							24 N2SW,SESW,SWSE	
							25 N2NE,SENE	
							3 SENE,N2SE,SWSE	
NMNM 0063903	Southwestern Public SVC	Power Tran Line	In Service	7.2 & 12.47 KV 5.5 6 miles in length	50'	T20S R30E	10 W2NE,SENW,E2SW, SWSW	PO Box 1937, Roswell, NM 88201
							15 NWNW	
							21 W2	
							28 W2	
							28 SESW	
							28 SESW	
NMNM 0021511	Southwestern Public SVC	Power Tran Line	In Service	7.2 & 12.47 KV 5.5 6 miles in length	50'	T20S R30E	29 W2SE	PO Box 1937, Roswell, NM 88201
							33 W2NE,NENW,N2SE, SESE	
							15 SESE	
							22 NENE	
							3 NESE	
							3 Lots 3,4,6,7,10,11,15,16 N2SE	
NMNM 0023563	Southwestern Public SVC	Power Tran Line	In Service	7.2 & 12.47 KV 2.080 miles in length 7.2 / 12.47 KV 1392 ft in length 7.2 & 12.47 KV 5.5 6 miles in length	100' 100' 30'	T20S R30E	30 Lots 3,4, SESW,SWSE	PO Box 1937, Roswell, NM 88201-1937
							28 W2	
							28 SESW	
							28 SESW	
							29 W2SE	
							33 W2NE,NENW,N2SE, SESE	
NMNM 0027962	Southwestern Public SVC	Power Tran Line PCA substation 2 Power Tran Line	In Service	1107.5 ft in length 69KV 3.57 miles in length	30'	T20S R29E	15 SESE	PO Box 1937 Roswell, NM 882021937
							22 NENE	
							3 NESE	
							3 Lots 3,4,6,7,10,11,15,16 N2SE	
							25 N2SE	
							30 Lots 3,4, SESW,SWSE	
NMNM 0040618	Southwestern Public SVC	Power Tran Line	In Service	12.4 KV 1107.5 ft in length 69KV 3.57 miles in length	30'	T20S R29E	15 SESE	PO Box 1937 Roswell, NM 882021937
							22 NENE	
							3 NESE	
							3 Lots 3,4,6,7,10,11,15,16 N2SE	
							25 N2SE	
							30 Lots 3,4, SESW,SWSE	
NMNM 0135026	Southwestern Pub SVC	Power Tran Line (to W M Snyder) Power Tran Line	In Service	12.4 KV 1107.5 ft in length 69KV 3.57 miles in length	30'	T20S R29E	15 SESE	PO Box 1937 Roswell, NM 882021937
							22 NENE	
							3 NESE	
							3 Lots 3,4,6,7,10,11,15,16 N2SE	
							25 N2SE	
							30 Lots 3,4, SESW,SWSE	
NMNM 0161442	Southwestern Pub SVC	Power Tran Line	In Service	12.4 KV 1107.5 ft in length 69KV 3.57 miles in length	30'	T20S R29E	15 SESE	PO Box 1937 Roswell, NM 882021937
							22 NENE	
							3 NESE	
							3 Lots 3,4,6,7,10,11,15,16 N2SE	
							25 N2SE	
							30 Lots 3,4, SESW,SWSE	

Summary of ROWs within the Project Boundary: Power Lines

Lease / Reference Number	Owner / Operator	Description	Status	Construction	ROW	Location		Contact Information	
						Township/Range	Section 1/4 1/4		
NMNM 0460618	Southwestern Public SVC	Power Tran Line	In Service	7.2 & 12.47 KV 1.216 miles in length	30'	T20S R30E	28	SESW	PO Box 1937, Roswell, NM 88201
							29	W2SE	
							33	W2NE,NENW,N2SE,SESE	
NMNM 0467873	Southwestern Pub SVC	Power Tran Line 69kv	Pending	8.140 miles in length	60'	T21S R29E	1	S2	PO Box 1937 Roswell, NM 88201
							3	NESE	
NMNM 0467884	Southwestern Pub SVC	Power Tran Line 69kv	Pending	2997.67 ft in length	60'	T21S R29E	3	E2SE	PO Box 1937 Roswell, NM 88201
							11	NWNW	
NMNM 0556456	Potash Co of America	Power Tran Line	In Service	12.47 KV 2.177 miles in length	25'	T19S R30E	34	SENE,SESW,N2SE,SWSE	PO Box 31, Carlsbad, NM 88220
							3	Lots3,4,SWNW,SW	
NMNM 0560085	Southwestern Public SVC	Power Line PCA substation #2 Overhead Power Lines for Oil Wells	In Service	12.47 KV 500 ft in length Overhead Power Lines for Oil wells	30'	T20S R29E	23	SENE	PO Box 1937, Roswell, NM 88202-1937
Fed. Lease NMLC 0029096C & NMLC.0029096A RW-18161	Shackelford Oil	Power Tran Line	In Service	7.2 & 12.4 KV	30'	T20S R30E	36	NENW,SWNW,W2SW	PO Box 1937, Roswell, NM 88201-1937
							36	SWSW	
							36	W2NW	
RW-19273	Southwestern Public Service	Power Tran Line	In Service	7.2KV	30'	T20S R30E	36	W2NW	PO Box 1937, Roswell, NM 88201-1937
M-3626	Southwestern Public Service	Power Tran Line	In Service	66 KV	30'	T20S R30E	36	W2NW	PO Box 1937, Roswell, NM 88201-1937
NMNM 0025113	Southwestern Public SVC	Power Tran Line	In Service	7.2 or 12.47 KV 2812 ft in length	40'	T20S R30E	28	S2SW,SWSE	PO Box 1937, Roswell, NM 88201-1937
							29	S2SE	
RW-22784	Central Valley Electric Coop.	Power Line	In Service	7.2 & 12.47 KV	30'	T19S R30E	36	SWNE,NWSE,NESE	PO Box 219, Artesia, NM 88210
							36	NENE,NESE,NESE	
RW-30238	Central Valley Electric Coop.	Power Line	In Service	7.2 & 12.47 KV	30'	T19S R30E	36	NENE,NESE,NESE	PO Box 219, Artesia, NM 88210
RW 16480	Southwestern Public Service	Overhead Power Line	In Service	230 KV	30 ft	T20S R30E	17	SWSW	P.O. Box 1937, Roswell, NM 88202
							20	NWNW	
M-2345	Southwestern Public Service	Power Tran Line	In Service	115 KV	80'	T21S R29E	11	W2SW,SWNW	PO Box 1937, Roswell, NM 88201-1937
							16	W2SE,E2NW,SWNE	
RW-18828	Southwestern Public Service	Power Tran Line	In Service	115 KV	60'	T20S R30E	16		PO Box 1937, Roswell, NM 88201-1937
							18		
M-3605	Southwestern Public Service	Power Tran Line	In Service	12.4 KV	30'	T20S R30E	18	Lot 4, SESW,S2SE	PO Box 1937, Roswell, NM 88201-1937
							17	S2SW,SWSE	
M-9295	Southwestern Public Service	Power Tran Line	In Service	66 KV	30'	T20S R30E	16	W2NE	PO Box 1937, Roswell, NM 88201-1937
RW-15768	Southwestern Public Service	Power Tran Line	In Service	69 KV	60'	T21S R29E	2	SWSW	PO Box 1937, Roswell, NM 88201-1937
							11	SWNW,W2SW	
RW-29484	Southwestern Public Service	Power Tran Line	In Service	13 KV	30'	T20S R30E	16	SWNE,NWSE	PO Box 1937, Roswell, NM 88201-1937
RW-25721	Southwestern Public Service	Power Tran Line	In Service	115 & 69 KV	60'	T21S R29E	11	SWNW,NWSW,SWSW	PO Box 1937, Roswell, NM 88201-1937
RW-20774	Southwestern Public Service	Power Tran Line	In Service	115 KV	60'	T20S R30E	16	SWNE,NWSE	PO Box 1937, Roswell, NM 88201-1937
RW-20802	Intrepid	Power Tran Line	In Service	12.47 KV	30'	T20S R30E	16	NENE,S2NE,NWSE	1996 Potash Mine Rd, Carlsbad, NM
M-11235	Intrepid Potash	Power Tran Line	In Service	Power Line	30'	T20S R30E	16	S2NW,N2NE,SWNE	1996 Potash Mine Rd, Carlsbad, NM
M-11239	Southwestern Public Service	Power Tran Line	In Service	12.47KV	30'	T20S R30E	16	W2NE,NWSE,N2SW	PO Box 1937, Roswell, NM 88201-1937
							17	NESW,SESW,SWSW	
M-13592	Southwestern Public Service	Power Tran Line	In Service	7.2 or 12.4 KV line	30'	T20S R30E	16	NWSE,NESW,SESW,	PO Box 1937, Roswell, NM 88201-1937

Summary of ROWs within the Project Boundary: Telephone and Fiber Optic

Lease / Reference Number	Owner / Operator	Description	Status	Construction	ROW	Location		Contact Information
						Township/Range	Section	
NMLC 0060264	Union Potash & Chem	Telephone Line	In Service			T21S R29E	11 E2NW, SWNE, NESE 12 W2SW	Carlsbad, NM 88220
NMLC 0064279 (Reissued NM101882)	AT & T	Buried Telephone Line (Dallas to El Paso)	Closed	51.766miles in length	100'	T21S R29E	1 Lots 5-8 3 Lots 1-4	1200 Peachtree PA183, Atlanta, GA 30309
NMNM 003743	Valor Telecom of NM LLC	Tel & Teleg	In Service	Overhead Tel Line 4339.6 ft in length	30'	T20S R30E	9 S2SE	201 E John D Carpenter FWY 200, Irving TX 75062 (336) 924-5101
NMNM 003744	Valor Telecom of NM, LLC4	Communication Pole Line	In Service	2787.5 ft in length	30'	T20S R30E	15 SWNE,W2NW,SENW 20 N2NE 21 NWNW	201 E John D Carpenter FWY 200, Irving TX 75062 (336) 924-5101
NMNM 028087	Valor Telecom of NM, LLC4	Fiber Optic Cable (24)	In Service	1.5" High Density Poly w/ 24 FO (BFO-24) 15.753 miles in length	30 ft	T20S R30E	3 Lot 4,SWNW,W2SW 9 E2NE,N2SE,SWSE 20 E2SE 21 N2NW,SWNW,NWSW 29 NESW,S2SW,NWSE	201 E John D Carpenter FWY 200, Irving TX 75062 (336) 924-5101
NMNM 029474	Valor Telecom of NM, LLC4	Buried Telephone Cable	In Service	Fiber Optic Line 22.634 miles in length Also - 3 booster sites - 25'x25' each	30'	T21S R29E	1 Lots 1-3,5-10,15 & W2SE 3 Lot 1, 17-19,22,24 12 NWNE, E2NW, N2SW, SWSW	201 E John D Carpenter FWY 200, Irving TX 75062 (336) 924-5101
NMNM 101882	AT&T	Tel & Teleg' FLPMA	In Service	51.654 miles in length	16.5'	T21S R29E	1 Lots 5-8 3 Lots 1-4	1200 Peachtree PA 168 Atlanta, GA 30309
NMNM 092548	ENMR Tel Coop Inc	COMM Site, FLPMA	Closed	Comm Site, Cell Phone Site		T21S R29E	1 SWSW	PO Box 1947 Clovis, NM 881021947
NMNM 098592	Valor Telecom of NM LLC	Tel & Teleg, FLPMA	In Service	38.534 miles in length	15'	T21S R29E	1 Lots 1-5 3 Lots 1,17-19,22,24 21 E2E2 28 E2E2 34 W2W2	201 E John D Carpenter FWY 200, Irving TX 75062 (336) 924-5101
RW-16948	Valor Telecom. Of NM, LLC	Telephone Line	In Service	Telephone Line & Poles	30'	T20S R30E	3 Lot 4 9 E2NE,NESE,W2SE 20 E2SE	201 E John D Carpenter FWY 200, Irving, TX 75062
RW-15303	Valor Telecom. Of NM, LLC	Telephone Line	In Service	Telephone Line & Poles	30'	T20S R30E	21 NENW,W2NW,NWSE 29 E2SW,SWSW,SWNW, N2S2	201 E John D Carpenter FWY 200, Irving, TX 75062
NMNM 123502 Reauthorization of NM-29474	Valor Telecom of T	Tel & Teleg, FLPMA	In Service	22.6 miles in length	30	T21S R29E	1 Lots 1-3,5-10,15 & W2SE 3 Lots 1,17-19,22,24 12 NWNE,E2NW,N2SW, SWSW,NESW 33 S2SW,SWSE 35 E2E2	11101 Anderson Dr, Little Rock AR 72212
NMNM 123790	Penasco Valley Tel Coop	Fiber Optic Line (Carlsbad to Hobbs Fiber Optic)	In Service	70 miles in length	16'	T20S R30E	1 SE5W,S2SE 10 S2SE 11 S2NE,N2SW,SWSW, NWSE 12 N2NW 15 NWNE,N2NW 17 NESE 19 NENE,SENW, LOT 2 20 N2NW 33 S2SW,SWSE	4011 W Main St, Artesia, NM 88210
NMNM 124896	Penasco Valley Tel Coop	Fiber Optic Line (to Intrepid West)	In Service	2 miles in length	30'	T21S R29E	1 W2SE 1 Lots 2,7,10,15 12 W2NE,SENW,NESW	4011 W Main St, Artesia, NM 88210
NMNM 126051	Penasco Valley Tel Coop	Tel & Teleg FLPMA	Pending			T21S R29E	12 SESE	4011 W Main St, Artesia, NM 88210

Summary of ROWs within the Project Boundary: Telephone and Fiber Optic

Lease / Reference Number	Owner / Operator	Description	Status	Construction	ROW	Location			Contact Information
						Township/Range	Section	1/4 1/4	
NMNM 0349791	Valor Telecom of NM	Telephone Line	In Service	5232.7 ft in length	30'	T20S R29E	25	N2SW,SWSW	201 E John D Carpenter FWY 200, Irving TX 75062 (336) 924-5101
RW 23088	Valor Telecom of NM, LLC	Communication Pole Line	In Service		30 ft	T19S R30E	32	NWNW,NENW	201 E John D Carpenter FWY 200, Irving TX 75062 (336) 924-5101
							36	SWSW,SESW,SWSE, SESE	
						T20S R30E	16	SESW,NESW,SWNE, NWNE	
							29	SWNE,NENE,NWNE	
RW 24617	Valor Telecom of NM, LLC	Buckeye Carrier Site Fiber Optic Line	In Service	Fiber Optic Line	30 ft	T20S R30E	16	NWNE,SWNE,NWSE, NESW,SESW	320 North Shipp, Hobbs, NM 88240 575/397-0912
							29	NENE,NWNE,SWNE	

Note: Valor Telecommunications is now Windstream Corp

Summary of ROWs within the Project Boundary: Water

Lease / Reference Number	Owner / Operator	Description	Status	Construction	ROW	Location		Contact Information
						Township/Range	Section	
NMLC 0060532	Sunterra Gas Gathering	Water Pipeline Carlsbad to PCA Plant	Closed	7" diameter pipe 4.743 miles in length	50'	T20S R29E	25 26 35 ALL SESE NEN2,SWNE,SENW	PO Box 1899, Bloomfield, NM 87413
NMLC 0067654	Eddy Potash, Inc.	Water Line (Caprock to PCA Plant)	In Service	Steel Pipe ? ?	20 ft	T20S R30E T19S R30E	9 26 34 35 SE SENE,S2 NW	PO Box 31, Carlsbad, NM 88220
NMNM 005591	Eddy Potash, Inc	Fresh Water Pipeline - buried (to Eddy Potash, Inc)	In Service	diameter pipe, 1.458 mile	50'	T20S R30E	8 9 SESE SWSW,E2SW	PO Box 31, Carlsbad, NM 88220
NMNM 025935	Mississippi Potash	Water Plant - Pipeline	In Service	16" diameter pipeline 27.036 miles in length	100'	T21S R29E	1 Lots 8,9,10,14,15 N2SW, SWSW	PO Box 101 Carlsbad, NM 882210101
NMNM 028930	Duval Corp.	Water Pipeline	Expired	1 1/4 in diameter 2765' in length	30'	T20S R30E	12 24 N2NW, SENW, NESW E2NE,SWNE	PO Box 273, Houston, TX 79702
NMNM 073099	Duke Energy Field SVCS SW	Water Gathering System	In Service	2,3,4" diameter pipe	30'	T20S R29E	15 E2NE	PO Box 5493, Denver, CO 80217
NMNM 084506	St Mary Land & Expl Co	Salt Water Disp	In Service			T20S R29E	15 NWSW	1776 Lincoln St #700, Denver, CO 80203
NMNM 084506A	St Mary Land & Expl Co	Salt Water Disp	In Service	Well Pad Only		T20S R29E	15 NWSW	1776 Lincoln St #700, Denver, CO 80203
NMNM 084594	Western AG-Mineral	Fresh Water Pipeline from NM25935	In Service	2.292m length 8" diameter pipe - steel	50'	T21S R29E T20S R30E	1 35 Lot 4-6 E2E2	PO Box 511 Carlsbad, NM 88220
NMNM 089706	Western AG-Mineral	Water Facility	In Service	Water Monitoring Wells 50' x 50' ea. 3 wells		T20S R30E	22 33 34 SENE SESE	PO Box 511, Carlsbad, NM 88220
NMNM 090172	I & W Inc	Salt Water Disp-FLPMA	Closed	Fresh Water Station & Access Road	30'	T21S R29E	1 Lot 1,8,9	PO Box 98 Loco Hills, NM 88255
NMNM 094381	Western Ag Co	Water Pipeline	In Service	8" diameter pipe 4405.6 ft in length	30'	T20S R30E	34 SWNW,N2SW,SESW, SWSE	PO Box 511, Carlsbad, NM 88220
NMNM 095400	Yates Petro Corp	Salt Water Pipeline Buried Polu Piping	In Service	3" diameter pipe 3.25 miles in length	30'	T20S R29E	14 15 22 E2NE,SWNE,SENW, N2SW SESW,E2SE,SWSE NNNW	105 S 4th St, Artesia, NM 88210
NMNM 100935	IMC Kalium Potash	Caprock Water 24" Diameter	In Service	6.867 miles in length	50	T21S R29E	1 Lot 10,15 & SESW, W2SE E2NW, SW	PO Box 71 Carlsbad, NM 88220
NMNM 105663	Duke Energy Field Service LP	Groundwater Monitoring Wells	In Service	2 - 1000' X 1000' Sites & 1 - 400' x 400' site		T20S R30E	10 11 NESE,SENE SWNE,N2SW,SWSW	10 Desta Dr #400W, Midland, TX 79705
NMNM 105663A M-01476	Potash Company of America	Water Pipeline	In Service	3" diameter pipe ???	30 ft	T20S R30E	16 17 19 20 NW SW,SE,NE SW,SE,NE NW	201 E John D Carpenter FWY 200, Irving TX 75062 (336) 924-5101
NMNM 0004387	Western AG Minerals	Water Pipeline	In Service	12" Diameter Pipe 16.410 miles in length	100'	T20S R30E	25 26 NE, SE SESE	PO Box 511, Carlsbad, NM 88220
RW - 29477	Shackelford Oil Co.	Salt Water Disposal	In Service	3 " Poly	30 ft	T20S R30E	17 18 SWSW NNNW,SWNW,SENW NESW,NWSE,NESE, SESE NNNW	P.O. Box 10665, Midland, Tx 79702

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Appendix D

**Public Comments on Draft
EIS and BLM Responses**

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1.0 Introduction to Draft EIS Comments and Responses

The Notice of Availability (NOA) for the Draft EIS was published in the *Federal Register* on April 15, 2011. This began the 60-day period for public review and comment of the Draft EIS. Prior to publication of the NOA, BLM mailed the second project Bulletin to 111 people who indicated that they wanted to be on the mailing list. BLM mailed hard copies of the Draft EIS to nine people or agencies and 62 electronic copies on CD, based on requests and agency policy. E-mail notification of the NOA and the availability of the Draft EIS for downloading from the project website were sent to 55 people who provided addresses.

Two public meetings were held from 3:00 p.m. to 7:00 p.m., one each in Carlsbad (May 10, 2011) and Hobbs (May 11, 2011), New Mexico. The meetings were publicized through the project website, public service announcements to local radio and television stations, and through display advertisements in Artesia Daily Press, Hobbs News-Sun, and Carlsbad Current-Argus. The meetings began with a formal presentation to the public to ensure that meeting attendees were informed about the project and the findings in the Draft EIS. The presentation was followed by an informal open house to allow meeting attendees to ask questions and submit comments. BLM representatives staffed information stations with display boards showing the alternatives analyzed in detail, some of the key findings from the impact analysis, and information on the NEPA process. Sixty members of the public attended the Carlsbad meeting and 18 people attended the Hobbs meeting.

During the public comment period, BLM met with representatives from local governments and state and federal agencies to answer questions and explain the findings of the Draft EIS. In response to a request from one agency, BLM extended the public comment period by two weeks, closing on June 23, 2011 instead of June 13 as originally scheduled.

BLM received 27 distinct comment letters and 139 form letters from which there were 217 unique comments that were categorized. The comments and responses are provided in the following sections where they are grouped by category. **Table 1** summarizes the number comments by category. Some comments covered more than one category; therefore the total number of comments listed in Table 1 exceeds the total number of comments received. Responses to form letters were only documented once.

1.1 Draft EIS Comments Received

The number of comments received during the public comment period are listed by category in **Table 1**.

Table 1 Comments Received by Category

Category	# of Comments
Air Quality	3
Alternatives	15
Cave/Karst	14
Climate Change	1
Cumulative Impacts	8
Editorial	15
Environmental Justice	1
Fire Prevention/Suppression	1

Category	# of Comments
Geology	2
Health/Safety	5
Mining	7
Mitigation Measures	16
Monitoring	13
NEPA Process	10
Oil and Gas	13
Project Description	2
Project Support	19
Reclamation	3
Riparian Areas/Wetlands	1
Socioeconomics	30
Soils	4
Subsidence	11
Threatened & Endangered Species	10
Vegetation/Botany	6
Water Resources	36
Wildlife	10
Total	256

1.2 People Submitting Form Letters

Form Letter 1 responses are listed in the following sections under Philip Huett and Form Letter 2 responses are listed under Chancy Sallee. Following is a list of all the parties who submitted each form letter.

Form Letter 1

Allred, Mainard
Amos, Linda
Beaumont, Cher
Beaumont, Rene
Beavers, Krystal
Bhusari, Amol
Bluth, Marcus
Brazealf, John
Brown, Jacki
Brown, Ziggy
Burkham, Lewis
Burnett, Jerry
Bush, Jim
Caldron, Aurelio
Campis, Isaac

Castillo, Adam
Castillo, Lyne
Caughen, James
Clovin, Jonny
Colvin, Johnny
Compos, Marc
Conteas, Micheal
Cox, Rodger
Crumley, Glenda
Crump, James
Cullen, Cheryl
Daley, James
Day, Richard
Dickman, Kevin
Dix, Neil

Dominguez, Rudy
Drooz, Herbert
Easten, Douglas
Esboda, Pedio
fine, Jimmie
Galvin, Steve
Goad, Cathy
Gooch, Stan
Granger, Rudy
Harper, Trent
Heine, Lou
Henderson, Danny
Herndon, Thomas
Higgins, Loyd
Holub, Joshua

Jrotten, Jay
Klein, David
Lammers, Mark
Lardie, Jacquelyn
Larochelle, William
LaVrana, Mary
Logsdon, Randy
Mailing, Jae
Martinez,
Martinez, Domingo
McCutcheon, Steve
McDonald, Tama
McWilliam, Monty
McWright, Nolan
Mee, Edmond
Michaelson, Robert
Mickelson, Kurt
Miller, Travis
Moore, Paul
Moore, Stephen
Nicholas, Brian
Nicholas, Joe

Oalstr, Eddie
Orosco, Chris
Ortance, Robert
Osell, John
Palmer, Deryl
Palmu, Deryl
Patterson, Dallas
Patton, Richard
Pool, Brian
Pratec, Harold
Pryor, Rolan
Putnam, Melvin
Rayos, Jessie
Reyes, Frank
Roberson, C
Rodriguez, Judy
Runner, Michael
Russell, Podney
S, Scott
Sakes, Raymond
Samaniego, Mark
Sanyo, Mark

Smith, Scott
Smith, Stewart
Strater, Ted
Sullivan, Jared
Torres, Roy
Van Loop, W R
Vasquez, S
Villa, Mark
Vrana, Mary
Walls, Raymond
Webb, Jackie
Wehent, Mark
Wiggins, Linda
Williams, Avery
Williams, David
Wise, Eric
Wordi, Bobbi
Zell, John

16 additional Intrepid Potash
employees with unreadable
names

Form Letter 2

Bengochea, Talon
Bunch, Craig
Chavarria, Cesar
Gutierrez, Miguel
Jemilo, Joe
Johnson, Joel
King, Mike
Morris, Jimmy
Murrill, Valerie
Neville, Brad
Peine, Sam
Strickland, Don
Teal, Jim
Waddle, Tamara
Sallee, Chancy

Air Quality

Comment:

EPA encourages the use of clean, lower-emissions equipment and technologies to reduce pollution. Further, EPA's final Highway Diesel and Nonroad Diesel Rules mandate the use of lower sulfur fuels in nonroad and marine diesel engines beginning in 2007. Please include a discussion detailing measures the project will incorporate to reduce equipment emissions and the anticipated reductions in emissions.

Smith, Rhonda; USEPA Region 6

Response:

Compliance with all relevant federal and state laws, regulations, and policies would apply under all alternatives and has been assumed. No exceedances of state and federal standards and issues related to high sulfur fuels have been identified for this project. While mitigation measures can be discussed in an EIS even if impacts are not projected to be significant, in order to comply with CEQ NEPA guidance to minimize the length and complexity of EIS contents, detailed discussions of measures to solve problems not identified as of primary concern will not be added to this EIS. Intrepid submitted an application to the NMED-AQB for a Minor NSR permit for the HB Mill, which is currently under review. If the project goes forward, Intrepid will have to comply with any requirements of this permit.

Comment:

Section 4.5.8-Mitigation Measures (p. 4-61) indicates that recommended additional mitigation measures for project alternatives include development of a dust control plan prior to the start of construction activities. EPA encourages development of a dust control plan to govern construction activities, and any such plan should be in agreement with any applicable natural events action plans or erosion control regulations for the area.

Smith, Rhonda; USEPA Region 6

Response:

Comment is noted. That is the intent of the recommendation for a dust control plan in the referenced section.

Comment:

Any demolition, construction, rehabilitation, repair, dredging or filling activities have the potential to emit air pollutants and we recommend best management practices be implemented to minimize the impact of any air pollutants. Furthermore, construction and waste disposal activities should be conducted in accordance with applicable local, state and federal statutes and regulations.

Smith, Rhonda; USEPA Region 6

Response:

As stated in the Draft EIS, page 2-21, section 2.4.5, compliance with all relevant federal and state laws, regulations, and policies would apply under all alternatives. This compliance is assumed as part of the effects analysis. A dust control plan will be developed prior to construction.

Alternatives

Comment:

Alternative B - Supplemental Water Sources - is better because it provides greater operational flexibility while still using only water to which Intrepid has existing water rights. We strongly prefer to use Rustler groundwater for the HB Project because of its salinity and proximity to the HB Project, but the ability to use Caprock water would provide added flexibility to ensure we can fully implement and operate the project.

Huett, Philip

Response:

BLM will consider all comments and recommendations before making a final decision. Note that the agency preferred alternative may select from any of the alternatives analyzed and may not be a complete alternative as analyzed in the Draft EIS.

Comment:

The description of the Proposed Action does not mention the fact that, as a result of previous mine operations, the three northern Rustler wells are contaminated with lead acetate. As stated in the DEIS analysis of impacts to groundwater resources (page 4-21), and through personal communication with representatives of Intrepid (Kevin Ryan, Director of Technical Services) and the NM Environment Department (Larry Shore, Groundwater Quality Bureau), lead would have to be removed from this water before it could be used in injectate brine. Removal of metals from saline water is a complicated proposition, involving an on-site treatment plant with a toxic waste-stream, which would comprise a major component of the in-situ mining operation. BLM needs to address the water treatment option, the use of contaminated water, and/or the adequacy of water volume from only the four southern Rustler wells in the NEPA analysis, before the Proposed Action is given further consideration.

Wunder, Matthew; NM Dept of Game and Fish

Response:

As noted in the comment, the description of the Proposed Action does not mention the lead contamination. However, in the first paragraph of the description of Alternative B (page 2-15 of the Draft EIS), it states that the northernmost Rustler wells were not included in this alternative due to concerns over high lead levels. A statement will be added to the Proposed Action disclosing the lead contamination issue with the northern Rustler wells and making it clear that treatment would be required. A statement on the lead contamination was included in the Draft EIS Section 3.3.2.2, Project Area Hydrogeology and Groundwater Chemistry, under the "Rustler Formation Near Rustler North" heading. One assumption of the impact analysis, as stated on page 4-21 of the Draft EIS, is that lead must be removed before use as injectate. It would not be to Intrepid's benefit to use water contaminated with lead in the development of potash fertilizer. Note that the agency preferred alternative may select parts from any of the alternatives analyzed in the Draft EIS, so portions of the Proposed Action could be selected without using the contaminated wells. Our initial research showed that the process of removing lead from saline water is complex and difficult. There is currently insufficient information on the water chemistry and the nature of the lead contamination. Detailed data on the water quality, the nature of the lead contamination, the quantity of water to be treated as well as other information would be required before details of the treatment plant could be determined. Gathering the required information and designing a treatment process would be time consuming and expensive if the alternative is not chosen. For this reason treatment of the lead was considered a mitigation measure that would be designed and implemented only if this alternative were selected and was not discussed in detail in the EIS. We do not believe that the impacts of the treatment would significantly change the overall impacts of the project or alter our decision.

Cave/Karst

Comment:

The presence of the water affects the humidity levels of the caves. Some species of bats require a high humidity level to use a cave for a nursery or a roost.

Harrington, Ken

Response:

Comment is noted and will be considered.

Comment:

Para 1.4.2, Table 1-1, Page 1-5, Major Federal and State Law, Regulations, and Applicable Permits:
Add: Federal Cave Resources Protection Act of 1988.

Harrington, Ken

Response:

While this table was not intended to list all regulations, this one will be added.

Comment:

Intrepid will work with BLM to develop a groundwater monitoring program in order to minimize any potential impacts to karst and caves.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

This monitoring plan is included as a mitigation measure on page 4-15 of the Draft EIS. Any updates to this planning effort will be included in the Final EIS.

Comment:

Page ES-7. Comment. The summary on caves in Table ES-2 reports that, as to the Proposed Action, "42 to 43 known caves in the HB Project area would be affected by drawdown" and, as to Alternative B, "18 to 38 known caves in the project area would be affected by drawdown." Given that these statements are based on predictions in groundwater models and uncertainty regarding structural and/or hydraulic connection between cave features and the Rustler aquifer(s), Intrepid respectfully suggests that BLM replace the word "would" with the word "may."

Ryan, Kevin; Intrepid Potash, Inc.

Response:

While the drawdown predictions based on the groundwater models were generated using the best available data, BLM recognizes that there are many unknowns related to the water levels and potential indirect effects on caves in the project area. So, while not all potential impacts should be presented as "may" instead of "would", the potential impacts to caves is more speculative and will be changed in the summary tables in Chapter 2 and the Executive Summary and in the discussions in Section 4.2 related to cave impacts.

Cave/Karst

Comment:

Table 2-11 indicates that groundwater drawdown would affect 42 to 43 caves under the Proposed Action or Alternative C, and 18 to 38 caves under Alternative B. These caves have not been surveyed in detail for biological resources that may depend on water. We recommend that the Record of Decision for this project require the applicant to conduct such surveys, and for amendment contingent on survey results not indicating a prediction of significant adverse impact to biological resources.

Wunder, Matthew; NM Dept of Game and Fish

Response:

Page 4-15 of the Draft EIS includes a recommended mitigation measure to develop a groundwater monitoring plan, complete a biological inventory of cave species, and develop adaptive management strategies to minimize adverse effects on species and water in caves. The BLM decision-maker will consider your comment before finalizing the Record of Decision.

Comment:

Lowering of the water level in the perched water table would stop all potential future growth of the cave except for any surface waters that might run in after a rain storm.

Harrington, Ken

Response:

It is uncertain if drawdown in the Rustler Aquifer will impact the perched aquifers of the caves. The projections of groundwater drawdown are based on the best available data and the use of models, with many unknowns related to the water levels and species in the existing caves. For this reason, the mitigation measures included in the Draft EIS on page 4-15 recommend development and approval of a monitoring plan as well as completion of a biological inventory of the caves and adaptive management strategies in consultation with BLM to minimize drawdown impacts. If this plan is completed or if further decisions are made before completion of the Final EIS, the updated information will be included.

Cave/Karst

Comment:

Section 4.2.8.2, Page 4-15 Comment. The third bullet in this section, second line, states implementation of a plan should include a biologic inventory of cave species before groundwater pumping begins. Intrepid is extremely concerned with this requirement as the cave locations are not known by Intrepid and the area has already been subject to significant past mining and oil and gas impacts. This requirement has significant potential to delay the project. Additionally, karst and cave features may not contain water, and groundwater pumping may not affect the water level in the caves. We respectfully recommend that this requirement be removed. Intrepid has committed to working with the BLM to install groundwater monitoring wells adjacent to the critical karst areas as part of the groundwater monitoring program and Intrepid believes that monitoring of the water levels in the known cave and karst areas will provide adequate protection of biologic species that may be in the caves and karsts.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

This mitigation measure is included as a recommendation that would enable BLM to monitor and apply adaptive management to minimize adverse impacts to important caves. If this mitigation measure is selected in the Record of Decision, BLM will work with Intrepid to identify the locations of the important caves in order to determine which should be surveyed and monitored. At this stage, this mitigation measure is a recommendation by the resource specialist and should be left in the EIS for consideration by the decision-maker, who can choose to modify or exclude this mitigation measure as part of the Record of Decision.

Comment:

Intrepid has also committed to installing a groundwater monitoring network to evaluate drawdown impacts to various natural resources such as karst / caves, springs / seeps, etc.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

This monitoring plan is included as a mitigation measure on page 4-15 of the Draft EIS. Any updates to this planning effort will be included in the Final EIS.

Comment:

Section 4.2.4.2, Page 4-6 Comment. The first sentence states that caves and caves resources would not be affected under the No Action Alternative. Intrepid respectfully submits that conventional mining in the area has already caused subsidence and that subsidence has potential to have impacted the caves and cave resources in the area.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Past conventional mining and subsidence contributed to the current conditions described in Chapter 3. The impacts discussed under the No Action Alternative are those that would occur in the future under current mining operations and maintenance activities, without implementation of the proposed project.

Cave/Karst

Comment:

With the project removing large quantities of water from the Rustler Formation for use in the project, there will be a resulting draw down of all local water tables. The water levels in these caves will disappear. If this is allowed to occur, any organisms that rely on this water for life, will cease to be. This must not be allowed to happen.

Belski, Dave

Response:

The projections of groundwater drawdown are based on the best available data and the use of models, with many unknowns related to the water levels and species in the existing caves. For this reason, the mitigation measures included in the Draft EIS on page 4-15 recommend development and approval of a monitoring plan as well as completion of a biological inventory of the caves and adaptive management strategies in consultation with BLM to minimize drawdown impacts. If this plan is completed or if further decisions are made before completion of the Final EIS, the updated information will be included.

Climate Change

Comment:

Intrepid appreciates BLM's incorporation of climate change analysis into the DEIS. BLM provided background information on regional climate and existing climate change conditions in section 3.6 (pages 3-69 to 3-72) of the DEIS. Specifically, BLM discussed greenhouse gases, the sources of greenhouse gases, the impacts from climate change and the limitations on predicting impacts to global climate change from a particular local decision.

BLM's approach in the DEIS is entirely consistent with guidance established or proposed by the United States Geological Survey ("USGS"), the Environmental Protection Agency, the Solicitor for the Department of the Interior and the Council on Environmental Quality ("CEQ"). Because this guidance strengthens BLM's approach, it is discussed below. BLM may wish to refer to the guidance when it finalizes the HB EIS.

In the DEIS, BLM recognizes these limitations on quantifying climactic impacts from a particular project. DEIS at page 4-61. Specifically, BLM acknowledges that techniques for quantifying GHG emissions are in the developmental stages and thus acknowledges that the specific effects of human activities can only be evaluated qualitatively. *Id.* at page 3-72. Despite these limitations, BLM quantified the potential contribution of GHGs from the HB Project. *Id.* at pages 4-61 to 4-64. BLM's quantification of these GHG emissions is consistent with (and in fact goes beyond) draft CEQ guidance on evaluating effects on proposed Federal actions on climate change.

BLM's analysis on climate change in the DEIS is consistent with CEQ's guidance.

After quantifying the GHG emissions from the HB Project, BLM evaluated these GHG emissions in the context of United States GHG emissions, concluding that no significant impacts to global climate change from the proposed project would occur and that the cumulative impacts to climate change from the project and the vicinity of the proposed project would be negligible on a regional and global scale. See DEIS at pages 4-64, 5-7.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Comment is noted and will be considered.

Cumulative Impacts

Comment:

Section 2.5, Page 2-31 Comment. In Table 2-10, we recommend revising the description of Intrepid's water saving improvements to show that "Due to Intrepid's water conservation program and process improvements at the East Plant, Intrepid expects to reduce current use of Caprock water by approximately 700 to 900 gallons per minute following the full commissioning of the changes at the East Plant." Further, as discussed previously, the reference to the "Cramer water project" should be to the "Creamer water project." Also, as discussed previously, Intrepid has entered into a water option agreement with Roy Creamer that ensures Intrepid's access to purchase up to 90 acre-feet (56 gpm) per annum of water from the well referenced in Table 2-10. If Intrepid exercises the option, it is unlikely that the Creamer water project would go forward.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Updates to the change in water usage will be made in this table for the Final EIS as will the correction to Creamer's name. While the Creamer water project may not move ahead, the EIS needs to present that possibility. The table will also be updated to state that increased water usage from this well may occur if Intrepid exercises the option. This must be considered under cumulative impacts because it would add to the predicted groundwater drawdown in the project area.

Comment:

Section 5.1, Page 5-2, Table 5-1 Comment. In the first row, second column, Intrepid respectfully recommends revising the description of Intrepid's water saving improvements as follows: "Due to Intrepid's water conservation program and process improvements at the East Plant, Intrepid expects to reduce Current use of Caprock water by approximately 700 to 900 gallons per minute following the full commissioning of the changes at the East Plant." In the fifth row, the reference to the "Cramer water project" should be to the "Creamer water project." Please also see Intrepid's comments on Table ES-3.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Updates to the change in water usage will be made in this table for the Final EIS as will the correction to Creamer's name.

Comment:

My first priority, when reviewing the HB Project proposal, is WIPP's mission and the safety of its employees. It is clear from reviewing the details of Intrepid's plan that none of the proposed alternatives for the HB Project will interfere with WIPP in any way. WIPP is located more than 10 miles from the outer perimeter of the HB Project boundary and none of WIPP's infrastructure would be put at risk.

Sharif, Farok

Response:

Comment is noted and will be considered.

Cumulative Impacts

Comment:

Impacts on Caprock Wells Would Be Mitigated. Intrepid is aware that, under Alternative B, drawdown in the Caprock area may increase over the drawdown predicted under Alternatives A and C. DEIS at pages 4-43, 4-44. These impacts, if any, would be mitigated by the water conservation program and process improvements that Intrepid is planning for its East Plant. The program and improvements include upgrades to Intrepid's East Mine langbeinite processing plant that are anticipated to decrease Caprock water usage by approximately 700 to 900 gpm following the full commissioning of the changes at the East Plant. Accordingly, to the extent Caprock water is needed for the HB Project, Intrepid's Caprock water conservation efforts are expected to significantly offset any increased use for the HB Project. *Id.* at page 5-5.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Updates to the change in water usage will be considered in the Final EIS. In the Draft EIS, the possible offset of 600 to 700 gpm was considered in Chapter 5, so the change would decrease Caprock water usage by up to 200 gpm more than what was already considered.

Comment:

EPA recommends the FEIS include geographic and temporal boundaries for analyzing the cumulative impacts on all resources of concern. The analysis should include soil, vegetation, and surface and ground water, including domestic, agricultural, industrial, and commercial use. Groundwater withdrawal is projected to continue into the future. This will affect surface water quality and quantity and potentially contribute to the degradation of vegetation, soil, and wildlife.

Smith, Rhonda; USEPA Region 6

Response:

The geographic boundaries of the cumulative impact analysis are described for each resource in Chapter 5. Additional information on the length of time assumed for cumulative impact analysis (at a minimum, this is the 28-year period of the proposed project) will be added. The resources, plus others, are included in Chapter 5 of the Draft EIS. Conclusions related to the direct and indirect effects from the project, such as that from groundwater withdrawal, are described under each resource in Chapter 4 of the Draft EIS.

Comment:

Due to our water conservation program and process improvements at our East Plant, we expect to reduce our use of Caprock water by 700 - 900 gallons per minute by the end of the year. As a result, if we need to use Caprock water for the HB Project, we expect our Caprock water conservation efforts to significantly offset any increased use for the HB Project.

Huett, Philip

Response:

Updates to the change in water usage will be made in this table for the Final EIS.

Editorial

Comment:

Pages ES-5 Comment. In the paragraph titled "Alternative A-Proposed Action," Intrepid respectfully requests changing "Intrepid's mine operation and closure plan" to "Intrepid's HB In-Situ Solution Mine Operation and Closure Plan."

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Change will be made.

Comment:

Page ES-17. Comment. In the paragraph "Water Resources-Groundwater," the reference to the "Cramer Project" should be to the "Creamer Project." Also, as discussed above in Intrepid's comments on page ES-16, Intrepid has entered into a water option agreement with Roy Creamer that ensures Intrepid's access to purchase up to 90 acre-feet (56 gpm) per annum of water from the well referenced in this paragraph. If Intrepid exercises the option, it is unlikely that the Creamer Project would go forward.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Updates to Creamer's name will be included in the Final EIS. While the Creamer water project may not move ahead, the EIS needs to present that possibility. The table will also be updated to state that increased water usage from this well may occur if Intrepid exercises the option. This must be considered under cumulative impacts because it would add to the predicted groundwater drawdown in the project area.

Comment:

Section 3.8.2, Page 3-82 Comment. This section is titled "Aquatic Species," but includes discussion of many non-aquatic species such as bats, fox, and birds. Intrepid respectfully suggests that BLM move its discussion of non-aquatic species to a different section of the DEIS, such as a section for mammals and birds.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

This is a formatting error. The section Sensitive Species should be 3.8.3 and not under Aquatic Species. Change will be made.

Comment:

Section 4.2.5.1, Page 4-7 Comment. In the fourth full paragraph, line 5, Intrepid respectfully recommends that the citation to Intrepid Potash, Inc./Shaw 2008b should be supplemented with a citation to RESPEC Consulting & Services, "Evaluation of Ground Subsidence Over the Intrepid HB Mines, Carlsbad, New Mexico," Topical Report RSI-2164 (April 2011).

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Reference to this report will be added.

Editorial

Comment:

EDITORIAL COMMENTS ON THE HB IN-SITU SOLUTION MINE PROJECT DRAFT ENVIRONMENTAL IMPACT STATEMENT

ABSTRACT PAGE

Comment. Correct the publication date of the NOA and the date by which comments must be received by BLM: April 15, 2010 should be April 15, 2011, and June 13,2010 should be June 13,2011.

EXECUTIVE SUMMARY Page ES-3 Comment. In the third paragraph, second line, change "their" to "its." The third paragraph should therefore read: "The purpose of this project is to provide for technically viable development of the potash resources, as required by federal law and the federal leases and to allow the lessee to exercise its right to develop its leases subject to applicable mine and safety laws and the 1986 Order." (emphasis added).

CHAPTER 1

Section 1.2, Page 1-3. Comment. In the sixth paragraph, second line, change "their" to "its." The sixth paragraph should therefore read: "The purpose of this project is to provide for technically viable development of the potash resources, as required by federal law and the federal leases and to allow the lessee to exercise its right to develop its leases subject to applicable mine and safety laws and the 1986 Order." (emphasis added).

CHAPTER 2

Section 2.3.2, Page 2-2 Comment. Language is missing from the first sentence of this section, which currently states: "This alternative would involve the injection of saline brine the SPA to leach the in-place water soluble minerals from unmined formations."

Section 2.3.5, Page 2-4 Comment. In the first sentence of this section, insert the word "the" immediately before the words "project area." In the second sentence of this section, delete the word "give" which currently appears immediately before the word "remove."

Section 2.3.5, Page 2-5 Comment. In the second paragraph, last sentence, insert the word "a" immediately before the word "location."

Section 2.4.5, Page 2-23 Comment. In the sixth bullet titled "evaporation ponds," delete the word "a" immediately before the word "geosynthetic."

CHAPTER 3

Section 3.2.1, Page 3-1 Comment. In the second line of this section, change "describes" to "describe."

Section 3.2.1.3, Page 3-8 Comment. In the first paragraph, lines 4-5, fix the typographical error in the clause "but more extensive outcrops area occur to the east." In the second paragraph, fourth line, change "is distinguished" to "are distinguished."

Section 3.2.2.1, Page 3-10 Comment. In the first paragraph, line 6, insert a "." after 1929. In the third paragraph, line 6, correct the spelling of twelfth.

Section 3.2.2.1, Page 3-11 Comment. In the first paragraph, line 3, change "are established" to "were established."

Section 3.2.3.1, Page 3-17 Comment. In Table 3.2-2, there is a typographical error in the second "Rating Definition." Delete the word "a" immediately after the word "contain."

Section 3.2.3.2, Page 3-21 Comment. In the first paragraph, second line, delete the word "the" immediately before the year "1973."

Section 3.2.3.2, Page 3-33 Comment. In the section titled "Bell Canyon Aquifer," fifth line, change "have moderate flow potential" to "has moderate flow potential."

Section 3.3.2.1, Page 3-42 Comment. In the fifth paragraph, line 2, insert a "." after the word "thick."

Section 3.3.2.1, Page 3-44 Comment. In the fifth paragraph, line 3, change "are indicative" to "is indicative." In the fifth paragraph, line 6, change "maybe" to "may be."

Section 3.3.2.2, Page 3-46 Comment. In the second paragraph, line 1, change "Alluvial" to "Alluvial."

Section 3.4.2, Page 3-50 Comment. In the first full paragraph, insert a "," after "component names."

Section 3.4.2, Page 3-56 Comment. Revise the following sentence in the first paragraph to eliminate the typographical error: "Approximately 65 percent of the existing pipeline corridor has poor soil limitations related to shallow excavations is." in the third line, change "is previously" to "was previously."

Comment. Revise the following sentence in the final paragraph to eliminate the typographical error: "Environmental reports

Editorial

(OCD 2009a) indicate that spills of saline produced water have occurred within the project area and saline surface soils may be present however, may not be accurately quantified by the current soil survey due to the timeframe and scale of mapping."

Section 3.5.1.1, Page 3-59 Comment. In the first line of the second paragraph of this section, change "NAAQS establishes" to "NAAQS establish."

Section 3.5.1.3, Page 3-64 Comment. In the second full paragraph, line 7, change "affects" to "effects."

Section 3.7.1, Page 3-72 Comment. In the first paragraph, line 11, change "platuea" to "plateau." In the second paragraph, line 7, change "cover types" to "cover type."

Section 3.7.1, Page 3-75 Comment. In the first paragraph, line 6, change "transistion" to "transition." In the second paragraph, line 4, change "littleaf sumac" to "littleleaf sumac."

Section 3.7.2, Page 3-78 Comment. In the paragraph titled "Scheer's Beehive Cactus," third line, change "small cluster or stems" to "small cluster of stems."

Section 3.7.3, Page 3-78 Comment. In the first paragraph, line 2, change "caused" to "causes."

Section 3.7.3, Page 3-80 Comment. In the third paragraph, second line, insert the word "on" after the word "based." In the fourth paragraph, third line, change the word "long" to "along."

Section 3.8.1.1, Page 3-81 Comment. In the first paragraph, line one, change "within project Area" to "within the project area."

Section 3.8.2, Page 3-86, Table 3.8-1 Comment. In the second row, third column, change "fer rets" to "ferrets."

Section 3.8.2, Page 3-91, Table 3.8-1 Comment. In the first row, fourth column, change "unlikley" to "unlikely."

Section 3.8.2, Page 3-101 Comment. In the third paragraph, line 3, change "specie" to "species."

Section 3.8.2, Page 3-102 Comment. In the paragraph on the sand dune lizard, sixth line, change "activates" to "activities."

Section 3.12, Page 3-114 Comment. It appears there should be two more bullets made: one for "Adjacent Scenery = 0" and one for "Scarcity = 1."

Section 3.13.5.2, Page 3-119 Comment. In the second paragraph, line 9, change "sties" to "sites."

Section 3.15.1, Page 3-121 Comment. In the second to the last line on this page, delete the word "a" before the number 15.

Section 3.15.3, Page 3-123 Comment. In the first full paragraph, second line, change "both of values" to "both values."

Section 3.15.4, Page 3-124 Comment. In the second paragraph of this section, line one, change "proceeding" to "preceding."

Section 3.15.11, Page 3-132 Comment. In the third bullet of this section, change "Determine" to "Determination of." In the second to the last line on the page, insert the word "a" immediately before the word "ranch."

CHAPTER 4

Section 4.2.1.2, Page 4-1 Comment. In the first line of this section, insert the word "the" after the words "effects to."

Section 4.2.2.1, Page 4-3 . Comment. In the second paragraph, line 3, change "that that" to "that."

Section 4.2.3, Page 4-4 Comment. In the first bullet, change "for foreseeable future" to "for the foreseeable future."

Section 4.2.9, Page 4-15 Comment. In the first line of this section, insert the word "be" after the word "would."

Section 4.2.9.1, Page 4-15 Comment. In the third paragraph, line 2, change "extend" to "extended."

Section 4.2.9.2, Page 4-16 Comment. In the first paragraph, line one, insert the word "a" immediately before the word "number."

Section 4.2.9.5, Page 4-16 Comment. In the first paragraph, line four, change "area" to "are."

Section 4.3.3, Page 4-21 Comment. Fix the typographical error in the first line by changing "land" to "and."

Section 4.4.2, Page 4-45 Comment. In the first paragraph, line one, change "were" to "was."

Section 4.4.5, Page 4-48 Comment. Revise the first paragraph, second sentence, which states: "Approximately 21 percent of the initial disturbance would occur on highly wind erodible soils while long-term disturbance would occur approximately 19 percent of wind erodible soils."

Editorial

Section 4.5.2, Page 4-52 Comment. In the first paragraph, line 5, change "Mobil" to "Mobile."

Section 4.5.5, Page 4-53 Comment. In the first paragraph, line one, change "new emission sources" to "new emissions sources."

Section 4.5.5.1, Page 4-55 Comment. In the third paragraph, line 3, change "Fugitive emission" to "Fugitive emissions."

Section 4.6.5, Page 4-63 Comment. The first sentence is incomplete, and should be revised.

Section 4.7.5.1, Page 4-66 Comment. In the final paragraph on this page, first sentence, insert the word "be" immediately after the first appearance of the word "would."

Section 4.7.5.1, Page 4-67 Comment. Fix the typographical error in the first paragraph, second line, second sentence: "within currently within."

Section 4.7.5.2, Page 4-68 Comment. The fourth paragraph of this section, third line, second sentence, is missing language and should be revised.

Section 4.7.6.1, Page 4-71 Comment. In the first paragraph, seventh line, insert the word "be" after the word "would."

Section 4.8.5.1, Page 4-75 Comment. In the third paragraph of this section, line 7, change "replace" to "replaced."

Section 4.8.5.1, Page 4-77 Comment. In the third paragraph, line 7, revise the sentence that begins "If migratory birds attempt ... " The sentence is currently incomplete.

Section 4.8.5.3, Page 4-78 Comment. Please revise the third paragraph of this section.

Section 4.9.5, Page 4-82 Comment. In the third paragraph, line 4, fix the typographical error in the clause "long-term loss of from the placement of permanent facilities."

Section 4.9.6, Page 4-83 Comment. In the second paragraph, line 4, insert the word "be" immediately after the word "would."

Section 4.9.8, Page 4-84 Comment. In the third bullet, line one, change "are" to "is."

Section 4.11.3, Page 4-87 Comment. In the first bullet, change "as well affect" to "as well as affect."

Section 4.15.3, Page 4-98 Comment. In the first paragraph, second line, delete the words "if there were."

Section 4.15.4.1, Page 4-99 Comment. In the first paragraph, line 2, change "foreseeable" to "foreseeable future." In the third paragraph, line 5, change "The No Action" to "The No Action Alternative."

Section 4.15.5, Page 4-100 Comment. In the fourth line, insert the words "would occur" at the end of the sentence.

Section 4.15.5.1, Page 4-103 Comment. In Table 4.15-2, the numbers in the second column require adjustment. In paragraph 3, line 2, change "it" to "in."

Section 4.15.6.1, Page 4-108 Comment. In the second paragraph, line 2, should the additional number of jobs be 20, not 23? In the fourth paragraph, line 1, change "support" to "supported."

Section 4.15.6.2, Page 4-109 Comment. In the third paragraph, line 1, change "Alternative" to "Alternative B." In the second line of the third paragraph, change "would among" to "would be among." In the fourth paragraph, line 3, change "28- to 35-year production life" to "28-year production life."

Section 4.15.6.4, Page 4-110 Comment. In the fourth paragraph, line 1, change "leaves projected production and life of project" to "leaves the projected production and life of the project."

Section 4.15.7.1, Page 4-111 Comment. In the fourth paragraph, line 1, change "support" to "supported."

Section 4.15.7.3, page 4-111 Comment. Delete the word "demand" immediately after the word "seasonal."

Section 4.15.7.4, Page 4-112 Comment. In the fourth paragraph, revise the first sentence to read "Alternative C leaves the projected production and life of the project unaffected."

Section 4.15.8, Page 4-112 Comment. In the first paragraph, line 2, insert the word "future" immediately after the word "foreseeable."

Section 4.15.8, Page 4-113 Comment. In the fourth paragraph, line 2, change "support" to "supported." In the seventh paragraph, line 3, change "short-term, benefits" to "short-term benefits."

CHAPTER 5

Section 5.2.2.1, Page 5-4 Comment. In the second line, change "has" to "have."

Editorial

Section 5.2.4, Page 5-5 Comment. The second sentence is unclear, and should be revised.

Section 5.3.1, Page 5-5 Comment. In the first paragraph, line 4, please clarify which area is being discussed in the parenthetical- "(less than 0.1 percent of the area)." In the fifth line, change "Cramer" to "Creamer."

Section 5.3.2, Page 5-5 Comment. In the first paragraph, lines 1,4, and 6, change "Cramer" to "Creamer."

Section 5.4, Page 5-6 Comment. In the second paragraph, line 5, change "decreased" to "decrease." In the third paragraph, line 1, change "Cramer" to "Creamer."

Section 5.5, Page 5-6 Comment. In the first paragraph, lines 1 and 2, change "emission sources" to "emissions sources."

Section 5.6, Page 5-7 Comment. In the first paragraph, lines 7-8, change "project including GHG emissions from construction amount" to "project, including GHG emissions from construction, amount."

Section 5.8, Page 5-8 Comment. Please revise the second sentence of this section, as it is currently unclear.

Section 5.8.1, Page 5-8 Comment. In the first paragraph, line 4, change "species like mule deer that" to "species, like mule deer, that." Insert a "." at the end of the last sentence of the first paragraph.

Section 5.10, Page 5-9 Comment. In line 5, change "CSA" to "CESA."

Section 5.16, Page 5-13 Comment. In the first paragraph, lines 1 and 6, change "Cramer" to "Creamer."

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Edits to the text to correct typographic errors will be made where appropriate.

Comment:

Section 4.3.9.2, Page 4-43 Comment. In the second paragraph, line 3, Intrepid recommends striking "decrease compared to the Proposed Action" and substituting "increase compared to the Proposed Action."

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Sentence will be changed as follows: "Groundwater depletions of seeps, springs, and underflow to Nash Draw would be less than under the Proposed Action."

Editorial

Comment:

Section 4.2.5.1, Page 4-11 Comment. The third paragraph, third sentence, states "Active and abandoned oil wells and a salt water disposal well extend through the inactive mine workings targeted for solution mining (see Figure 3.2-8)." As explained in Intrepid's General Comments, the reference to Figure 3.2-8 should be replaced with a reference to Figure 3.2-7. The quoted language and Figure 3.2-7 should also be revised to make clear that no active oil or gas wells will exist in the HB Project's proposed flood zones. This comment also applies to the fourth bullet on page 4-11, which states: "Fluids can enter the well either through an improperly plugged well, or through active wells that are in communication with the salt section."

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Change to figure number will be made. The map is correct as are the statements that the wells extend into the targeted workings. A statement will be added in this section of Chapter 4 to state that no active wells are located within the proposed flood zone. Because fluids from wells can enter the salt section or the mine workings, this statement is correct and will not be changed. The salt section and the inactive workings extend beyond the flood pool.

Environmental Justice

Comment:

The importance of preventing contamination of the surface water and groundwater cannot be emphasized enough. Low-income, minority farmers downstream of the Pecos River depend on irrigation from the river to grow their crops, and if the Pecos River or the underlying aquifers become contaminated with petroleum or brine water, these farmers would be adversely impacted.

Smith, Rhonda; USEPA Region 6

Response:

Comment is noted. Compliance with BLM and other federal and state laws and permits is intended to avoid surface water and groundwater contamination.

Fire Prevention/Suppression

Comment:

Risk of fire to plastic pipelines on the surface. If you bury you reduce the risk to exposing the pipeline to fire and reduce the width cleared due to fire concerns.

Shore, Lawrence; NM Environment Department, Ground Water Quality Bureau

Response:

Comment is noted and will be considered.

Geology

Comment:

The DEIS does not contain the data needed to evaluate the potential for collapse to be caused by the proposed project.

Smith, Rhonda; USEPA Region 6

Response:

The DEIS provides summary information of the analysis that was presented in the geology technical support document identified in the reference list as AECOM 2010a. This report will be added to the list of source information in Chapter 4 to clarify that it is incorporated by reference per NEPA guidance.

Comment:

The geology section is complete and comprehensively presented. The Permian of SE NM is perhaps some of the most studied and well documented section of rocks in the world and the geological information presented within the DEIS is bibliographical to the existing literature.

Thomas, Charles; NM Mining and Minerals Division

Response:

Comment is noted.

Health/Safety

Comment:

I am aware that Intrepid has successfully operated a potash solution mine in Moab, Utah for many years and has developed expertise in this safe and environmentally sound mining method.

Forrest, Bob

Response:

Comment is noted and will be considered.

Mining

Comment:

The HB Project will allow Intrepid to recover approximately 5 million tons of potash-a resource vital to American agriculture and food production-from a previously idled potash mine.

Brown, Cathryn; New Mexico State House

Response:

Comment is noted and will be considered.

Mitigation Measures

Comment:

Consistent with the DEIS, Intrepid will prepare a comprehensive mitigation plan for all potentially affected resources.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Comment is noted and will be considered.

Comment:

Expected salt concentrations in the evaporation ponds are toxic to wildlife. Several mitigation measures designed to exclude wildlife from the ponds are proposed on page 4-79 of the DEIS. Whichever mitigations are selected, be they design features, physical exclusion or various forms of hazing, the ponds should be intensively monitored at the initiation of operations (including at night, using infrared cameras and/or acoustic bat detectors), to allow for adaptive management should the mitigation prove unsuccessful at preventing exposure of wildlife to toxic liquids.

Wunder, Matthew; NM Dept of Game and Fish

Response:

Recommendations for monitoring to determine the effectiveness of mitigation measures and the use of adaptive management to make changes as needed will be incorporated into the Wildlife Mitigation Measures section (Section 4.8.8 in DEIS) of the Final EIS.

Comment:

Sand dune lizard: BLM is conducting a field survey and biological assessment in order to determine how best to minimize impacts to the sand dune lizard for repair of the existing Caprock pipelines or for construction of the alternative Caprock pipeline. The sand dune lizard habitat lies east of the HB Project and construction of the wells, brine pipelines, solar ponds, HB Mill and associated facilities would not impact the sand dune lizard.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Any new information resulting from the field survey and biological assessment will be incorporated into the Final EIS.

Mitigation Measures

Comment:

In light of the preceding comments, Section 4.4.8, "Mitigation Measures," has significant deficiencies. What criteria will be used to determine how much and what methods will be used to salvage soils? Potential measures to protect stockpiles from wind and water erosion (temporary vegetation, berms), reclamation of compacted soils along access routes and BMPs to reduce any spill effects should be more thoroughly discussed.

Thomas, Charles; NM Mining and Minerals Division

Response:

All mitigation measures sections in Chapter 4 include only those measures not already required as described in Section 2.4.5 of the Draft EIS, Environmental Protection Measures Common to All Alternatives, beginning on page 2-21. As stated in Section 2.4.5, reclamation would be performed in consultation with and based on the approval of BLM, so that specific seed mixtures, soil-handling methods, and erosion controls for reclamation would be determined at that time. Compliance with site-specific erosion and sediment control plans prepared for the Construction General Permit, and adherence to BLM policies and guidelines would minimize adverse impacts to soils. A spill prevention and response plan will be developed as part of the mine plan prior to operation.

Comment:

If the new pipeline is built, we recommend that the right-of-way should not be seeded where it crosses shinnery dune habitat. At the end of the life of the mining project, all caliche should be removed from the access road, and it too should not be seeded where it passes across shinnery dune habitat. To minimize direct mortality to SDL, contractors should be instructed to follow practices described in the enclosed NMGF trenching guideline.

Wunder, Matthew; NM Dept of Game and Fish

Response:

These recommendations will be incorporated into the Final EIS.

Comment:

Section 4.5.8-Mitigation Measures (p. 4-61) indicates that recommended additional mitigation measures for project alternatives include development of a dust control plan prior to the start of construction activities. EPA encourages development of a dust control plan to govern construction activities, and any such plan should be in agreement with any applicable natural events action plans or erosion control regulations for the area.

Smith, Rhonda; USEPA Region 6

Response:

Comment is noted. That is the intent of the recommendation for a dust control plan in the referenced section.

Mitigation Measures

Comment:

As stated in the DEIS, the evaporation ponds could pose a threat to avian migratory species. Pursuant to the MBTA, EPA encourages BLM to coordinate mitigation measures to protect migratory birds in relation to the proposed evaporation ponds with the U.S. Fish and Wildlife Service and the New Mexico Department of Game and Fish.

Smith, Rhonda; USEPA Region 6

Response:

The list of potential mitigation measures included in the DEIS, Section 4.8.8, page 4-79, was developed based on communication with a representative of the USFWS (Murphy 2010). Monitoring may result in changes to the mitigation measures as effectiveness is evaluated. A formal monitoring and mitigation plan is being developed in consultation with the BLM and the FWS.

Comment:

Any demolition, construction, rehabilitation, repair, dredging or filling activities have the potential to emit air pollutants and we recommend best management practices be implemented to minimize the impact of any air pollutants. Furthermore, construction and waste disposal activities should be conducted in accordance with applicable local, state and federal statutes and regulations.

Smith, Rhonda; USEPA Region 6

Response:

As stated in the Draft EIS, page 2-21, section 2.4.5, compliance with all relevant federal and state laws, regulations, and policies would apply under all alternatives. This compliance is assumed as part of the effects analysis.

Comment:

Impacts on Caprock Wells Would Be Mitigated. Intrepid is aware that, under Alternative B, drawdown in the Caprock area may increase over the drawdown predicted under Alternatives A and C. DEIS at pages 4-43, 4-44. These impacts, if any, would be mitigated by the water conservation program and process improvements that Intrepid is planning for its East Plant. The program and improvements include upgrades to Intrepid's East Mine langbeinite processing plant that are anticipated to decrease Caprock water usage by approximately 700 to 900 gpm following the full commissioning of the changes at the East Plant. Accordingly, to the extent Caprock water is needed for the HB Project, Intrepid's Caprock water conservation efforts are expected to significantly offset any increased use for the HB Project. *Id.* at page 5-5.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Updates to the change in water usage will be considered in the Final EIS. In the Draft EIS, the possible offset of 600 to 700 gpm was considered in Chapter 5, so the change would decrease Caprock water usage by up to 200 gpm more than what was already considered.

Mitigation Measures

Comment:

If the analysis determines that significant cumulative impacts would occur, a mitigation plan for these impacts should be included in the FEIS. A mitigation plan for impacts to groundwater resources could contain water conservation improvements for the entire potash mining process, including mills, forming partnerships with area residents, farmers, and public water systems, and partnering with city and county governments and the State's water resources administrator, the New Mexico Office of the State Engineer to promulgate new or improved water conservation guidance for mining operations.

Smith, Rhonda; USEPA Region 6

Response:

The suggested mitigation measures for groundwater will be added as possible mitigation option in the FEIS. The analysis identified direct and indirect impacts that are likely to occur, and has recommended monitoring and mitigation in the Draft EIS where appropriate. These recommendations will be updated in response to comments and incorporated into the Final EIS.

Comment:

EPA encourages the use of clean, lower-emissions equipment and technologies to reduce pollution. Further, EPA's final Highway Diesel and Nonroad Diesel Rules mandate the use of lower sulfur fuels in nonroad and marine diesel engines beginning in 2007. Please include a discussion detailing measures the project will incorporate to reduce equipment emissions and the anticipated reductions in emissions.

Smith, Rhonda; USEPA Region 6

Response:

Compliance with all relevant federal and state laws, regulations, and policies would apply under all alternatives and has been assumed. No exceedances of state and federal standards and issues related to high sulfur fuels have been identified for this project. While mitigation measures can be discussed in an EIS even if impacts are not projected to be significant, in order to comply with CEQ NEPA guidance to minimize the length and complexity of EIS contents, detailed discussions of measures to solve problems not identified as of primary concern will not be added to this EIS. Intrepid submitted an application to the NMED-AQB for a Minor NSR permit for the HB Mill, which is currently under review. If the project goes forward, Intrepid will have to comply with any requirements of this permit. Recommendation for operator to use equipment that meets EPA's Highway Diesel and Nonroad Diesel Rules was added to Section 4.5.9.

Mitigation Measures

Comment:

To avoid violation of the federal Migratory Bird Treaty Act, all clearing of vegetation should take place from September 1 through March 31, thus minimizing the possibility of causing nest destruction or abandonment. To avoid entrapment of reptiles and small mammals, require contractors to follow the enclosed NMGF Trenching guideline when burying pipeline or other underground utilities.

Wunder, Matthew; NM Dept of Game and Fish

Response:

While it would be impossible to avoid all clearing of vegetation during this time period, there is a mitigation measure included in Section 4.8.8 of the Draft EIS, page 4-80, which requires avoidance of removal of large woody vegetation or coordination with BLM to identify alternative protection measures. Compliance with the MBTA is also required and assumed. If clearing occurs during the listed period, then a preconstruction survey for nesting birds will be conducted and active nesting sites avoided. A new raptor survey will also need to be conducted prior to construction.

Comment:

Floatovoltaics may be a feasible solution to the problem of waterfowl landing, resting, frequenting, and attempting to feed on the large waste water ponds which have tremendously high salt contents. These ponds with high salt concentrations are not healthy for the waterfowl that are attracted to them.

Floatovoltaics is a relatively new concept in which photovoltaic arrays (PVA's) are densely packed over water environments on pontoon platforms that float. With a sufficient density of PVA's, the underlying waste water pond would not look/appear to be so attractive from the migrating waterfowl looking for a water source. This technology could also be utilized with netting over the surface of the water. The entire system could then raise/lower depending upon the water levels in the waste water ponds.

The benefit of the floatovoltaic system would be two-fold; it would not only serve to decrease the impacts of anthropogenic development on the migrating waterfowl and other avian species, but also would serve to supply energy either locally to the mine operations, or regionally through the power grid, to either save the mining company money, or perhaps even generate income for the mining corporation. Accordingly, MMD would recommend that the floatovoltaic system should be evaluated appropriately in the DEIS.

Thomas, Charles; NM Mining and Minerals Division

Response:

The primary purpose of a Floatovoltaic® system (by Thompson Technology Industries, Inc.) is to provide a place for establishing a photovoltaic system to generate electricity and to reduce direct sunlight on the water body. Because this system would reduce evaporation by covering the water surface, it would conflict with the primary purpose of the evaporation ponds. Other mitigation measures, proposed in Section 4.8.8 on page 4-79 of the Draft EIS, that were recommended by a representative of the USFWS, would be more effective. A statement calling for monitoring the effectiveness of any mitigation measures and the use of adaptive management to make changes as needed will be incorporated into the Wildlife Mitigation Measures section (Section 4.8.8 in DEIS) of the Final EIS.

Monitoring

Comment:

Modeling conducted by the BLM in conjunction with development of the EIS indicates that water within the Rustler Formation beneath and downgradient of previous potash operations will be incorporated into the process water stream. A review of the references provided indicates additional contaminants of concern will likely be present in the process water. NMED currently requires water quality monitoring of the injection and extraction well water, as well as monitoring of water quality within the proposed evaporation pond system. Based on the information provided, NMED intends to expand the list of analytes to incorporate those additional contaminants of concern identified by BLM. NMED will share monitoring information with BLM as necessary.

Shore, Lawrence; NM Environment Department, Ground Water Quality Bureau

Response:

Comment is noted and has been considered in the EIS, which assumes compliance with the NMED permit requirements.

Comment:

The 3 monitoring wells are located south of flood pools HB North and HB Crescent and east of flood pools HB South and HB Eddy, yet Figure 3.3-7 indicates that the potentiometric flow direction of groundwater is toward the west and southwest. This means that the 3 monitoring wells are located up-gradient and cross-gradient of the flood pools; no wells downgradient of the flood pools appear proposed or present. This appears to be a major flaw in the methodology of detecting and controlling leakage from the flood pools.

Thomas, Charles; NM Mining and Minerals Division

Response:

The potentiometric flow directions shown in Figure 3.3-7 are for the Rustler Formation. The proposed monitoring wells are to monitor for potential leaks during the in-situ leaching of the mine workings, which are in the Salado Formation. The Salado is not an aquifer, and as such has no groundwater flow direction. The proposed monitoring well locations are based on the flood design elevations to monitor leakage from the flood pools.

Comment:

A subsidence monitoring plan (DRAFT HB Solar Solution Mine Project Subsidence Monitoring and Mitigation Plan) has been developed which identifies the monitoring locations, schedule, evaluation methods, and reporting procedures. *Id.* The draft plan would be reviewed and approved by BLM prior to finalizing.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

New information received in time will be incorporated into the Final EIS.

Monitoring

Comment:

Expected salt concentrations in the evaporation ponds are toxic to wildlife. Several mitigation measures designed to exclude wildlife from the ponds are proposed on page 4-79 of the DEIS. Whichever mitigations are selected, be they design features, physical exclusion or various forms of hazing, the ponds should be intensively monitored at the initiation of operations (including at night, using infrared cameras and/or acoustic bat detectors), to allow for adaptive management should the mitigation prove unsuccessful at preventing exposure of wildlife to toxic liquids.

Wunder, Matthew; NM Dept of Game and Fish

Response:

Recommendations for monitoring to determine the effectiveness of mitigation measures and the use of adaptive management to make changes as needed will be incorporated into the Wildlife Mitigation Measures section (Section 4.8.8 in DEIS) of the Final EIS.

Comment:

Intrepid's Mine Operations and Closure Plan should be included as an appendix to the FEIS to determine its effectiveness regarding pipeline monitoring, spill response, and remedial actions.

Smith, Rhonda; USEPA Region 6

Response:

In order to comply with CEQ NEPA guidance to minimize the length and complexity of EIS contents, this plan has been incorporated by reference. As a result of this NEPA process, it is likely that some portions of the mine operations and closure plan will be modified if the project is approved. Spill response and remedial actions would comply with federal and state regulations. A spill prevention and response plan will be developed prior to construction.

Comment:

Groundwater: As part of the Underground Injection Control ("UIC") permit issued by the New Mexico Environment Department ("NMED"), Intrepid has committed to, and is required to do, extensive groundwater monitoring. The groundwater monitoring requirements address the monitoring and leak detection for the solar ponds as well as monitoring of the extraction and injection well network. Intrepid has attached the NMED UIC permit to these comments. See Exhibit 5, attached hereto. In addition, to prevent leakage, evaporation ponds would be lined with manufactured geosynthetic liners protected by an 18-inch layer of hardened salt. Evaporation pond areas will have monitoring and leak detection wells to ensure groundwater is protected.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Comment is noted and has been considered in the EIS.

Monitoring

Comment:

The use of only 3 groundwater monitoring wells seems insufficient to monitor potential leakage, especially considering that these monitoring wells are between one and three miles distant from the nearest flood pool.

Thomas, Charles; NM Mining and Minerals Division

Response:

The proposed monitoring well locations are based on the flood design elevations in relation to other inactive mine workings not intended to be flooded. The locations of these wells was evaluated as part of the NMED Discharge Permit DP-1681.

Comment:

Section 4.2.8.2, Page 4-15 Comment. The third bullet in this section, second line, states implementation of a plan should include a biologic inventory of cave species before groundwater pumping begins. Intrepid is extremely concerned with this requirement as the cave locations are not known by Intrepid and the area has already been subject to significant past mining and oil and gas impacts. This requirement has significant potential to delay the project. Additionally, karst and cave features may not contain water, and groundwater pumping may not affect the water level in the caves. We respectfully recommend that this requirement be removed. Intrepid has committed to working with the BLM to install groundwater monitoring wells adjacent to the critical karst areas as part of the groundwater monitoring program and Intrepid believes that monitoring of the water levels in the known cave and karst areas will provide adequate protection of biologic species that may be in the caves and karsts.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

This mitigation measure is included as a recommendation that would enable BLM to monitor and apply adaptive management to minimize adverse impacts to important caves. If this mitigation measure is selected in the Record of Decision, BLM will work with Intrepid to identify the locations of the important caves in order to determine which should be surveyed and monitored. At this stage, this mitigation measure is a recommendation by the resource specialist and should be left in the EIS for consideration by the decision-maker, who can choose to modify or exclude this mitigation measure as part of the Record of Decision.

NEPA Process

Comment:

Intrepid agrees that the potash acreage chargeability issue should be clarified in BLM's decision on the project. To resolve this issue, Intrepid believes that the 96,000-acre limit in 43 C.F.R. § 3503.37(c) should be enlarged by the total acreage of all potash leases included in the HB Project Area (22,189 acres).

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Comment is noted and will be considered.

Comment:

Page ES-4 Comment. The second paragraph reports that two governmental entities have signed agreements to be cooperating agencies. Intrepid understands that, since the DEIS was printed, more than two government entities have signed such agreements. The entities that have signed agreements include:

The United States Department of Energy, Carlsbad Field Office;
Chaves County, New Mexico;
City of Eunice, New Mexico; and
City of Hobbs, New Mexico.

Accordingly, the statement in the DEIS should be revised.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

The Final EIS will list all cooperating agencies that have formally signed an MOU, so updates will be made as appropriate.

Comment:

In addition, as a comment in general I would like to suggest that you make the supporting documentation for your DEIS available to the public via the internet on your webpage. A good example of how this is done can be found at: <http://www.qtcceis.anl.gov/>

Leigh, Christi; Sandia National Laboratories

Response:

The technical reports prepared in support of this EIS were added to the Draft EIS page of the project website at <http://www.nm.blm.gov/cfo/HBIS/>.

NEPA Process

Comment:

Section 5.15, Page 5-12 Comment. In the first full paragraph, the construction schedule described was based on the construction schedule submitted by Intrepid to BLM on November 11, 2009. The EIS schedule has changed since that submittal, and the most current HB Project construction schedule should be updated in the FEIS.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Change will be made.

Comment:

Section 1.3, Pages 1-3 to 1-4. Comment. The section "Decisions to be Made" should be revised to make clear that Intrepid's leases that cover the proposed solution mining will not be "changed." Intrepid understands it is just the chargeability of the acreage that changes, as discussed in Intrepid's General Comments.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

The leases will need to be adjusted and the lease conditions revised. The leases will be changed from conventional to solution mining leases and re-adjudicated so that the acreage is not include in the 96,000 acre limit. Comment is noted and will be considered.

Comment:

Intrepid's existing mining operations in the Secretary's Potash Area. Accordingly, as BLM indicates in the DEIS, Intrepid should qualify for an increase in the 96,000-acre limit in 43 C.F.R. § 3503.37 ©.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Comment is noted and has been considered in the EIS.

Comment:

Based on the discussion that we had regarding the documentation that supports the DEIS and the need to have an opportunity to review that information, I would like to request an extension of the public comment period for the DEIS until June 22, 2011. This should allow us to review the supporting documentation that is of interest to us and compile our comments for you.

Leigh, Christi; Sandia National Laboratories

Response:

In response to this request, BLM extended the comment period until Monday, June 23, 2011.

NEPA Process

Comment:

Personal communication with Intrepid's consultant (Richard Schowengerdt, Shaw Environmental & Infrastructure Group) indicated approximately three miles of overhead powerline would be involved. Location or alignment of the caliche pits and relocated utility corridors should be included in NEPA analysis as essential components of this project.

Wunder, Matthew; NM Dept of Game and Fish

Response:

Analysis of the caliche pits was included as part of the surface disturbance for the project. The new and existing pits to be used are shown in Figures 2-1 and 2-3 of the Draft EIS. Page 2-11, 3rd paragraph, of the Draft EIS describes the 3 overhead power lines, 2 underground gas lines, and 1 fiber optic line that must be relocated. It also states that these would be relocated within the same section on Intrepid fee land. This was included in the impact analysis to the degree possible, but the precise locations will not be known until consultation with the utility companies has been completed. The locations of the relocated power and pipelines and the expected disturbance will be included in the final EIS.

Oil and Gas

Comment:

The concerns expressed by these few oil and gas producers are also not supported by the record because both the DEIS and Intrepid's rock mechanics experts, RESPEC, show that the HB Project will not adversely affect active oil and gas wells in the HB Project area through subsidence. As explained in section I.C. of this letter, the DEIS predicts negligible subsidence from solution mining, about 0.6 feet, which would not result in abrupt changes in the ground surface.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Comment is noted and will be considered.

Comment:

Intrepid supports an environment where potash producers and oil and gas producers can work cooperatively and constructively to develop each resource. The HB Project is consistent with the creation of such environment, as it would not adversely affect existing oil and gas wells in the HB Project area, would not change access to potential oil and gas resources, and would not affect future oil and gas exploration and development.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Comment is noted.

Comment:

Section 4.2.1.1, Page 4-1 Comment. The fifth sentence states: "Another major concern is the presence of plugged and currently operating oil and gas wellbores that penetrate the proposed potash solution mining zone." As explained in Intrepid's General Comments, there are no active oil or gas wells in the proposed flood zones for the HB Project. The fifth sentence should be revised to clarify this point.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

This section is summarizing issues that were expressed during public scoping, not a statement of fact. The information in Sections 3.2 and 4.2 do not state that there are actually active oil or gas wells in the proposed flood zones. In response to comments, this will be clarified in the appropriate section of the Final EIS.

Oil and Gas

Comment:

A small number of oil and gas producers have also raised concerns that the HB Project may restrict access to oil and gas resources. DEIS at page 4-2. This concern is not supported by the record, as shown explicitly in the DEIS. There, addressing access issues directly, BLM reports under the Proposed Action "[t]here would be no change to access to oil and gas exploration and development in the project area," *id* at page 4-13, and "no change in access to potential oil and gas resources." *Id* at page 4-16. A principal reason for this conclusion is that there would be no change in BLM's oil and gas management practices in the region regardless of whether the no action alternative, the Proposed Action, or any of the other alternatives in the DEIS were selected. *Id* at page 4-13. As BLM explains, "[t]he proposed project would not restrict oil and gas further than existing restrictions and would not prevent oil and gas exploration and production in the [Oil Potash Leasing Area.]" *Id* at page ES-17.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

This is correct and is supported by statements and conclusions in the Draft EIS.

Comment:

Inactive wells: In addition, as part of this project, Intrepid has committed to reentering and properly plugging and abandoning all six of the inactive wells within the flood zones. There are no active wells within the flood zones.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

This will be added as a mitigation measure in the Final EIS.

Comment:

During the scoping process, a small number of oil and gas producers proposed alternatives to the Proposed Action which would require BLM to prioritize oil and gas development over potash solution mining in the HB Project area. One such alternative would authorize drilling the areas that are proposed to be solution mined prior to such mining operations. A second alternative would allow for maximum ultimate recovery of the oil and gas resources underlying the lands that immediately surround the proposed mining area. BLM correctly determined it had no obligation to study these alternatives in the DEIS.

None of these alternatives is consistent with the purpose and need of the HB Project, which is to provide for technically viable development of the potash resources, as required by federal law and federal leases. See DEIS at page 1-3. Since these alternatives do not accomplish the purpose of the HB Project and are outside the HB Project's scope, they are not reasonable and need not be studied in the DEIS. In addition, as discussed in the DEIS, the proposed alternatives do not meet the purpose and need of complying with the 1986 Order. *Id.* at page 2-5. This purpose and need is not met because giving priority to fluid minerals over potash mining would not be in compliance with the 1986 Order or BLM policy. *Id.*

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Comment is noted and has been considered in the EIS.

Oil and Gas

Comment:

The HB Project also will not impact the oil and gas industry's access to potential oil and gas resources, as the HB Project does not change how oil and gas development in the region would be managed by BLM.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

This is stated as a conclusion in the Draft EIS in several places. See Table 2-11 for the summary of impacts.

Comment:

Page ES-16. Comment. The final paragraph on this page states "The area encompassed by existing mine workings is large enough to preclude directional drilling as a recovery method except for a small fraction of the area." If this statement means that directional drilling would not be a suitable recovery method except for a small fraction of the area beneath the HB Mines, Intrepid believes it is not consistent with current drilling technology and should be revised. See Report from Michael P. Cleary (attached hereto as Exhibit 4).

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Notwithstanding that it may be technically feasible to access oil and gas under or even over the potash, Mr. Cleary did not provide an analysis of economic constraints of trying to develop reservoirs of different oil and gas plays with varying resource potential. Qualitatively, it would be reasonable to assume that economic constraints would limit the recovery of oil and gas resources in spite of technological advances. It may not be possible estimate how much resource would be lost or recovery delayed until the end of potash mining. The statement in this section will be revised to reflect the above information.

Comment:

The recently prepared RESPEC Subsidence Report (Exhibit 2 hereto) shows that the HB Project will not impact oil and gas wells in the HB Project area. RESPEC made incremental and total tilt and strain calculations for nine active oil and gas wells located within the HB Mines subsidence zones (both from conventional mining and solution mining). RESPEC Subsidence Report at pages iii, 32, 35. All of the incremental solution-mining-induced movements (tilts and strains) from the surface to the mine openings they penetrate, or are adjacent to, are significantly less than that required to affect the structural integrity of the existing wells. *Id.* Moreover, the total (existing conventional underground mining combined with the proposed solution mining) induced movements (tilts and strains) from the surface to the mine openings they penetrate, or are adjacent to, are significantly less than that required to affect the structural integrity of the existing wells. *Id.*

Ryan, Kevin; Intrepid Potash, Inc.

Response:

The text will be amended to provide the conclusions of the RESPEC report and the low risk of damage to wells and structures by solution mining predicted by the study. It will also be noted that predictions of overall subsidence and subsidence induced by solution mining were comparable to subsidence predictions that were previously presented by HB.

Oil and Gas

Comment:

Intrepid's review of property records and its on-the-ground surveillance show there are no active oil or gas wells in the proposed flood zones for the HB Project. Because no such wells exist, the HB Project's flood zones will not interfere with ongoing oil or gas production. The DEIS should be corrected to the extent it suggests otherwise. For example, page 4-11 of the DEIS states: "Active and abandoned oil wells and a salt water disposal well extend through the inactive mine workings targeted for solution mining (see Figure 3.2-8)." Intrepid respectfully requests this statement be revised to make clear that no active oil or gas wells exist in the HB Project's proposed flood zones. Further, Intrepid believes that the reference to Figure 3.2-8 should be replaced with a reference to Figure 3.2-7. Figure 3.2-7 should also be revised to make clear that no active oil or gas wells exist within the HB Project's proposed flood zones.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Change to figure number will be made. The map is correct as are the statements that the wells extend into the targeted workings. A statement will be added in this section of Chapter 4 to state that no active wells are located within the proposed flood zone. Because fluids from wells can enter the salt section or the mine workings, this statement is correct and will not be changed. The salt section and the inactive workings extend beyond the flood pool.

Project Description

Comment:

Section 2.4.2.2, Pages 2-11 to 2-12 Comment. The last sentence on page 2-11 and continuing sentence on page 2-12 states the injectate / ion exchange sodium and potassium can only penetrate 18 inches into the pillars and walls. Intrepid believes that dissolution can occur as long as potassium is exposed to brine. Intrepid therefore respectfully suggests that the reference to "18 inches" should be deleted and the sentence should be revised to make clear that the ion exchange "will occur as long as an interconnected pathway of potassium exists." Thus, dissolution is not limited to a specific distance.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Change will be made.

Project Support

Comment:

I am in complete support of this project. I can see NO negative impacts to the area and feel that it is a great project.

Sepich, Dave

Response:

Comment is noted.

Reclamation

Comment:

The DEIS does not adequately address any reclamation issues associated with the post-mine operations and returning the site to pre-disturbance conditions. Due to the sensitive nature of the some of the biological species in the region, it is recommended that the local site soils be graded and stockpiled for reclamation purposes. This native site soil stockpile should be planted with a wheatgrass, or some other nitrogen fixing variety of vegetation suited for the geographic/physiographic/climatic attributes of the region, to minimize wind and water erosion, and also to preserve the integrity of native/local mycorrhizae as a valuable component of a living soil. This stockpiled soil would then be utilized at the end of the mining operation to reclaim the disturbed area and be used as a base to re-establish native vegetation of the region. This re-establishment of native vegetation should be conducted carefully to mimic, as closely as possible, the existing pre-disturbance vegetation scheme in the area. Any native site soils stockpiled for the purposes of reclamation should be protected from any salt/alkaline encroachment that may occur during the period of mining operations.

Thomas, Charles; NM Mining and Minerals Division

Response:

As stated in Section 2.4.5 of the Draft EIS, Intrepid has committed to following BLM guidance for reclamation, with a goal of returning the property to beneficial post-mining land uses similar to pre-project conditions (page 2-24 of the DEIS). The introduction to Table 2-9 states that BLM policy and guidelines for environmental protection would be applied as needed, depending on site-specific conditions to be determined by BLM resource specialists. See Table 2-9 for a summary of the BLM environmental requirements and Appendix B for more details. Because it is important that the reclamation measures be site-specific, the details should be determined shortly before reclamation is to begin and should be tailored to site conditions, precluding detailed discussions in the EIS.

Comment:

Restoration: Salt tailing piles and disposal areas will not be created and wells, roads, ponds and the flotation plant would be reclaimed at the completion of construction.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Comment is noted and has been considered in the EIS.

Reclamation

Comment:

There is no discussion, in the draft EIS of plant species to be used at final reclamation, or interim stabilization of areas of the site. A seed mixture will need to be eventually approved for the reclamation of this project. It is important the right species are identified to ensure successful cover, adequate habitat, and stabilization of the site. The proponent should provide a list of potential reclamation species, seeding rates, amendments, and criteria to be used for measuring success.

Thomas, Charles; NM Mining and Minerals Division

Response:

As stated in Section 2.4.5 of the Draft EIS, Intrepid has committed to following BLM guidance for reclamation, with a goal of returning the property to beneficial post-mining land uses similar to pre-project conditions (page 2-24 of the DEIS). The introduction to Table 2-9 states that BLM policy and guidelines for environmental protection would be applied as needed, depending on site-specific conditions to be determined by BLM resource specialists. See Table 2-9 for a summary of the BLM environmental requirements and Appendix B for more details. Because it is important that the reclamation measures be site-specific, the details should be determined shortly before reclamation is to begin and should be tailored to site conditions, precluding detailed discussions in the EIS. The BLM approved seeding mixtures and requirements for different soil types will be added to Appendix B

Riparian Areas/Wetlands

Comment:

There are two locations where pipeline alignments are proposed within 200 meters of a floodplain, contrary to standard BLM permitting conditions. Both locations are intermittent waterbodies with woody riparian vegetation (Clayton Lake and Hackberry Lake). While it may be necessary to grant an exception to the 200 meter buffer, we recommend these pipelines be moved as far as feasible from the waterbodies, at least to the other side of the road. In addition, earthen berms, trenches or other best management practices should be specified to direct any spilled brine away from entering the drainage bottom.

Wunder, Matthew; NM Dept of Game and Fish

Response:

There are two locations where the pipelines will pass within 200 meters of a floodplain. The first location is in T20S R30E section 9 on the opposite side of route 360 from the tailings pile. Although fed by precipitation, the intermittent lake and flood zone are highly saline due to runoff from the tailing pile. There is little woody vegetation at the site. The pipeline runs on the opposite side of the road from the lake and due to the tailings pile, there is no other possible route. The second location is in T20S R30E section 3 and T19S R30E section 34 along county road 222 next to Clayton Lake. The BLM is recommending burying the pipeline to allow for surface flow of water in this location. Clayton lake is highly saline and is undesirable for wildlife. The woody vegetation around the lake consists mostly of unwanted and invasive salt cedar which the BLM has been in the process of eliminating. In fact, the BLM believes that the drawdown of the Rustler Aquifer is likely to drain this surface feature and considers this a positive impact. The highly saline nature of the water body makes pollution from pipeline leaks a non-issue. There is little benefit to moving the pipeline to the other side of the road as it would still be in an area prone to flooding and would conflict with an OHV trail that runs along that side of the road. The pipeline routes do not approach Hackberry Lake.

Socioeconomics

Comment:

Intrepid has commissioned a separate economic impact analysis that supports the analysis in the DEIS. The economic analysis was prepared by the Office of Policy Analysis, Arrowhead Center, New Mexico State University, titled "The Economic Impacts of Intrepid Potash, Inc.'s Proposed HB Solar Solution Mine Project in Eddy County, New Mexico" (2011) ("Arrowhead Center Report") (attached hereto as Exhibit 1). The HB Project's total construction costs are estimated to be between \$120 million to \$130 million, as reflected in the Arrowhead Center Report. Arrowhead Center Report at pages 1, 29. Total construction impacts are estimated to include between 262 and 284 direct construction jobs, between 491 and 531 total jobs, and between \$24.0 million (or \$48,791 per job) and \$26.0 million (or \$48,887 per job) of labor income. *Id.* at pages 2, 29-32. In a typical production year, the direct employment impacts range from 29 to 36 direct jobs and total employment impacts range from 51 to 62 jobs. *Id.* at pages 3, 33, 35-38. Direct taxes and royalties during the life of the project range from \$83.7 million to \$167.4 million. *Id.* at pages 3, 43. Other taxes result from the spending of employees. These other taxes range from \$8.1 million to \$9.8 million over the life of the project. *Id.* at pages 4, 47. Intrepid urges BLM to consider these impacts in its review of the HB Project. Intrepid notes that these economic benefits are not in lieu of other economic benefits, such as economic benefits from oil and gas. As described in greater detail below, the HB Project does not alter the ability of oil and gas lessees to access the potential oil and gas resources beneath the HB Project area.

Given Intrepid's strong interest in the HB Project, and the significant benefits that will accrue to the public, the economy, and the region if the HB Project is approved, Intrepid respectfully requests that BLM review these comments and attachments, and incorporate them into the EIS and the administrative record for the proceeding. Intrepid may supplement these comments as it obtains additional information through the EIS process.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Comment is noted. No revisions are necessary because the employment and labor income effects cited in the comment are comparable to those contained in the Draft EIS. The economic impact report cited in the comment, by being submitted as an exhibit to the comment, automatically becomes part of the administrative record for this EIS.

Comment:

Other taxes result from the spending of employees. These other taxes range from \$8.1 million to \$9.8 million over the life of the project. *Id.* at pages 4,47.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Text will be revised in Sections 4.15.5.4, 4.15.6.4, and 4.15.7.4 to acknowledge other tax receipts.

Socioeconomics

Comment:

The HB Project would create substantial economic benefits for the region. With an expected 12 -18 month construction period and 28-year mine life, the project would generate more than \$90 million in federal and state royalties, an estimated \$120 to \$130 million in capital construction expenditures and more than 150 local construction phase jobs and 30 to 40 long-term jobs.

Huett, Philip

Response:

Comment is noted.

Comment:

The HB Project's total construction costs are estimated to be between \$120 million to \$130 million, as reflected in the Arrowhead Center Report. Arrowhead Center Report at pages 1,29.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Text will be added to the description of the Proposed Action in Section 2.4.2 to describe Intrepid's total additional investment and annual production costs. A reference to this new report will be added.

Comment:

Potash mining has been one of the mainstays of the southeastern New Mexico economy for more than 50 years. I am a strong supporter of projects, such as the HB Project, that grow our local economy and create jobs while preserving our environment.

Heaton, John; New Mexico House of Representatives

Response:

Comment is noted and has been considered in the EIS.

Soils

Comment:

Soil mapping was probably conducted at an Order 3 level of detail. Areas directly impacted should be mapped at least at an Order 2 level to delineate inclusions that might require additional protection. Since any pipeline construction and maintenance will involve varying degrees of compaction, perhaps at depth in finer textured materials or as a result of travel of heavy vehicles on moist soils, some sampling effort should include a reconnaissance of pre-construction bulk density per soil series, to at least several feet in depth to estimate a required depth of ripping during reclamation.

Thomas, Charles; NM Mining and Minerals Division

Response:

Comment is noted. Soils were not identified as an issue for this project and a significant percentage of the project area has already been disturbed. Given these facts the BLM does not believe that this level of detailed soil analysis is warranted. BLM policy and guidelines for environmental protection would be applied as needed, depending on site-specific conditions to be determined by BLM resource specialists. Because it is important that the reclamation measures be site-specific, the details should be tailored to site conditions based on onsite evaluations conducted just prior to implementation, precluding detailed discussions in the EIS.

Comment:

The DEIS does not adequately address any reclamation issues associated with the post-mine operations and returning the site to pre-disturbance conditions. Due to the sensitive nature of some of the biological species in the region, it is recommended that the local site soils be graded and stockpiled for reclamation purposes. This native site soil stockpile should be planted with a wheatgrass, or some other nitrogen fixing variety of vegetation suited for the geographic/physiographic/climatic attributes of the region, to minimize wind and water erosion, and also to preserve the integrity of native/local mycorrhizae as a valuable component of a living soil. This stockpiled soil would then be utilized at the end of the mining operation to reclaim the disturbed area and be used as a base to re-establish native vegetation of the region. This re-establishment of native vegetation should be conducted carefully to mimic, as closely as possible, the existing pre-disturbance vegetation scheme in the area. Any native site soils stockpiled for the purposes of reclamation should be protected from any salt/alkaline encroachment that may occur during the period of mining operations.

Thomas, Charles; NM Mining and Minerals Division

Response:

As stated in Section 2.4.5 of the Draft EIS, Intrepid has committed to following BLM guidance for reclamation, with a goal of returning the property to beneficial post-mining land uses similar to pre-project conditions (page 2-24 of the DEIS). The introduction to Table 2-9 states that BLM policy and guidelines for environmental protection would be applied as needed, depending on site-specific conditions to be determined by BLM resource specialists. See Table 2-9 for a summary of the BLM environmental requirements and Appendix B for more details. Because it is important that the reclamation measures be site-specific, the details should be determined shortly before reclamation is to begin and should be tailored to site conditions, precluding detailed discussions in the EIS.

Soils

Comment:

Section 4.4 of the DEIS provides discussion about impacts to soil resources that include wind and water erosion, surface and sub-surface compaction and mixing of soil horizons during construction, all of which seem appropriate. However, one important omission from the discussion (except in passing, in Section 3.4) is the potential impact to local soil resources and reclamation in the event of a spill. Potential soil degradation following a large brine spill might include sealing/crusting of fine-textured soils with high Na content brines and the negative impact of salinity on growth media properties.

Thomas, Charles; NM Mining and Minerals Division

Response:

While it is true that high sodium content and saline conditions can alter soil permeability, should the project be approved, Intrepid will develop and comply with a project-specific spill prevention plan and an emergency response plan to minimize or avoid environmental damage. See Section 4.14 of the Draft EIS. Leak detection systems and regular monitoring of pipelines, as described in Chapter 2, are intended to identify leaks before they damage the environment. Intrepid will be responsible for any cleanup and remediation of spills or leaks.

Comment:

While no Prime Farmland was found in the survey conducted, some soil series are relatively productive in semi-arid areas (Berino, Pajarito, Regan) and some areas of ecological importance or where impacts would be less readily remedied (brine spills) might require rerouting/relocating facilities.

Thomas, Charles; NM Mining and Minerals Division

Response:

Comment is noted and will be considered. Should the project be approved, Intrepid would develop and comply with a project-specific spill prevention plan and an emergency response plan so that damage to all soils would be minimal. See Section 4.14 of the Draft EIS. Leak detection systems and regular monitoring of pipelines, as described in Chapter 2, are intended to identify leaks before they damage the environment. No agriculture currently exists in the project area.

Subsidence

Comment:

Section 4.2.2.1, Page 4-2 Comment. The attached report (Exhibit 2) by RESPEC Consulting & Services titled "Evaluation of Ground Subsidence Over the Intrepid HB Mines, Carlsbad, New Mexico," Topical Report RSI-2164 (April 2011), bears directly on subsidence issues. It should be included in the information that BLM lists in this section in the FEIS.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Reference to this report will be added.

Comment:

The recently prepared RESPEC Subsidence Report (Exhibit 2 hereto) shows that the HB Project will not impact oil and gas wells in the HB Project area. RESPEC made incremental and total tilt and strain calculations for nine active oil and gas wells located within the HB Mines subsidence zones (both from conventional mining and solution mining). RESPEC Subsidence Report at pages iii, 32, 35. All of the incremental solution-mining-induced movements (tilts and strains) from the surface to the mine openings they penetrate, or are adjacent to, are significantly less than that required to affect the structural integrity of the existing wells. *Id.* Moreover, the total (existing conventional underground mining combined with the proposed solution mining) induced movements (tilts and strains) from the surface to the mine openings they penetrate, or are adjacent to, are significantly less than that required to affect the structural integrity of the existing wells. *Id.*

Ryan, Kevin; Intrepid Potash, Inc.

Response:

The text will be amended to provide the conclusions of the RESPEC report and the low risk of damage to wells and structures by solution mining predicted by the study. It will also be noted that predictions of overall subsidence and subsidence induced by solution mining were comparable to subsidence predictions that were previously presented by HB.

Comment:

The DEIS identifies negligible subsidence impacts from the HB Project...The DEIS's analysis of subsidence is supported by Intrepid's rock mechanics experts, RESPEC Consulting & Services ("RESPEC"), who recently completed an ultimate subsidence analysis for the HB Project titled "Evaluation of Ground Subsidence Over the Intrepid HB Mines, Carlsbad, New Mexico," Topical Report RSI-2164 (April 2011) ("RESPEC Subsidence Report") (attached hereto as Exhibit 2).

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Comment is noted and has been considered in the EIS.

Subsidence

Comment:

Section 4.2.4.2, Page 4-6 Comment. The first sentence states that caves and caves resources would not be affected under the No Action Alternative. Intrepid respectfully submits that conventional mining in the area has already caused subsidence and that subsidence has potential to have impacted the caves and cave resources in the area.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Past conventional mining and subsidence contributed to the current conditions described in Chapter 3. The impacts discussed under the No Action Alternative are those that would occur in the future under current mining operations and maintenance activities, without implementation of the proposed project.

Comment:

A subsidence monitoring plan (DRAFT HB Solar Solution Mine Project Subsidence Monitoring and Mitigation Plan) has been developed which identifies the monitoring locations, schedule, evaluation methods, and reporting procedures. *Id.* The draft plan would be reviewed and approved by BLM prior to finalizing.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

New information received in time will be incorporated into the Final EIS.

Comment:

Section 4.2.9.1, Page 4-15 Comment. Intrepid respectfully recommends that the discussion in this section should include a citation to RESPEC Consulting & Services, "Evaluation of Ground Subsidence Over the Intrepid HB Mines, Carlsbad, New Mexico," Topical Report RSI-2164 (April 2011).

Ryan, Kevin; Intrepid Potash, Inc.

Response:

The text in Section 4.2 will be amended to provide the conclusions of the RESPEC report. However, the referenced section (4.2.9.1) is a summary of the impacts discussed earlier in this chapter and does not need to repeat all references cited, just the primary conclusions. The conclusions of the RESPEC report are similar to the other reports cited to support the analysis in the EIS, so no new information has been provided.

Subsidence

Comment:

Section 4.2.3, Page 4-4 Comment. The second bullet indicates that the risk from "anthropogenic-induced subsidence" is not predictable. That statement appears to be inconsistent with the third bullet, which reports that the subsidence effects from potash mining are "predictable." Intrepid respectfully recommends clarifying the statement to say that naturally induced subsidence manifestations may not be predictable.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

The text will be revised in this section as requested.

Threatened & Endangered Species

Comment:

Section 6.2, Page 6-1 Comment. Intrepid recommends that BLM revise the first full paragraph to reflect two points. First, although the sand dune lizard has yet to be listed as threatened under the Endangered Species Act, BLM is currently consulting with the Fish and Wildlife Service in anticipation of such potential listing. Second, as reflected earlier in this letter, Intrepid is currently working with BLM on a Biological Assessment for the sand dune lizard.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Consultation information will be updated to reflect activities that occurred after publication of the Draft EIS.

Comment:

Lesser Prairie Chicken: There is no lesser prairie chicken habitat within the HB Project construction area for the wells, brine pipelines, solar ponds, HB Mill and associated facilities. Intrepid would abide by the BLM restrictions described in Section 4.8.6.3 of the DEIS for working in lesser prairie chicken habitat for repair of the existing Caprock pipelines or for construction of the alternative Caprock pipeline.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Comment is noted and has been considered in the EIS.

Comment:

NMGF recommends that heavy equipment operation be prohibited from 3:00 am to 9:00 am, between February 15 and June 30, within 1.5 miles of lek sites active within the past five years. There are a number of known leks within this distance of the existing pipelines, therefore the seasonal timing restriction would apply.

Wunder, Matthew; NM Dept of Game and Fish

Response:

This timing limitation is listed in Table 2-9 and Appendix B, Section 2.11.2.1.1, as a BLM requirement and compliance has been assumed in the EIS.

Comment:

Sand dune lizard: BLM is conducting a field survey and biological assessment in order to determine how best to minimize impacts to the sand dune lizard for repair of the existing Caprock pipelines or for construction of the alternative Caprock pipeline. The sand dune lizard habitat lies east of the HB Project and construction of the wells, brine pipelines, solar ponds, HB Mill and associated facilities would not impact the sand dune lizard.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

The findings of the field survey and biological assessment will be presented in the Final EIS.

Threatened & Endangered Species

Comment:

The DEIS incorrectly states (page 4-79) that the right-of-way for the proposed new pipeline does not cross occupied sand dune lizard habitat. There are several documented occurrences of the species along that stretch within a mile of the highway, including one within a half mile that was verified since 2005. Since the highway already comprises a significant barrier, the new pipeline corridor may have less habitat fragmentation effect than excavation of the existing lines, but it is likely that construction of the pipeline and access road would impact this species through both direct mortality and additional loss of habitat. Consultation with the Fish & Wildlife Service would be required if that agency does list the species. If the new pipeline is built, we recommend that the right-of-way should not be seeded where it crosses shinnery dune habitat. At the end of the life of the mining project, all caliche should be removed from the access road, and it too should not be seeded where it passes across shinnery dune habitat. To minimize direct mortality to SDL, contractors should be instructed to follow practices described in the enclosed NMGF trenching guideline.

Wunder, Matthew; NM Dept of Game and Fish

Response:

At the time of the writing of the Draft EIS, no sand dune lizard occupied habitat was known within the new pipeline ROW although it does fall within the boundaries of the overall habitat. However, the route of the proposed new pipeline has been slightly modified since the Draft EIS and BLM is conducting a field survey of the full ROW. A biological assessment of the effects of the preferred alternative will be part of formal consultation with the USFWS. The findings of the field survey and biological assessment will be presented in the Final EIS. Reference to the recommended mitigation measures will be included in the Final EIS.

Comment:

Section 3.8.2, Page 3-83 Comment. In the section titled "Sensitive Species," second paragraph, second line, Intrepid respectfully recommends deleting "would not adversely affect," and substituting the words "is not likely to jeopardize the continued existence of." With this change, the DEIS more accurately tracks the language of section 7(a)(2) of the Endangered Species Act, 16 U.S.C. § 1536(a)(2).

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Either one is correct. The referenced paragraph is just explaining BLM's responsibility and not intended to directly quote the extensive language of the ESA.

Comment:

The project footprint, and a 1.5-mile buffer zone, should be surveyed for lek activity, using NMGF survey protocols (available on request).

Wunder, Matthew; NM Dept of Game and Fish

Response:

The known lek locations and buffer zones are displayed on Figure 3.8-1 in relation to project boundaries and pipelines. This reflects prior surveys.

Threatened & Endangered Species

Comment:

We are concerned about potential effects on two of these species, particularly if Alternative B is selected: the lesser prairie-chicken (LPC), a federal candidate for listing and state species of concern; and the sand dune lizard (SDL), a state Endangered species currently proposed for federal listing.

Wunder, Matthew; NM Dept of Game and Fish

Response:

Consultation with the USFWS on the SDL is underway, with a field survey of the proposed new pipeline ROW and development of a biological assessment. Compliance with timing restrictions for LPC would be required by BLM, as stated in Section 2.4.5 of the Draft EIS.

Comment:

The right-of-way, and a buffer zone, should be re-surveyed. However this alignment closely parallels state highway 62/180, therefore seasonal disturbance restrictions may not be appropriate or necessary.

Wunder, Matthew; NM Dept of Game and Fish

Response:

The route of the proposed new pipeline has been slightly modified since the Draft EIS and BLM is conducting a field survey of the full ROW. A biological assessment of the effects of the preferred alternative will be part of formal consultation with the USFWS. The findings of the field survey and biological assessment will be presented in the Final EIS.

Vegetation/Botany

Comment:

Because of the reduced drawdown [Alternative B], there may also be fewer impacts to vegetation types most affected by groundwater drawdown in the HB Project area. *Id.* At pages 2-36,4-73. For example, Alternatives A and C, if implemented, could potentially impact the following vegetation: mesquite upland scrub (5,932-6,044 acres), desert scrub (2,561-2,622 acres), grassland (836-840 acres) and woody riparian (639-655 acres). *Id.* at page 2-36. In contrast, Alternative B could potentially impact the following much smaller amounts of vegetation: mesquite upland scrub (1,332-3,282 acres), desert scrub (483-1,579 acres), grassland (425-738 acres) and woody riparian (6-56 acres). *Id.* Thus, the greatest potential impacts to vegetation communities as a result of groundwater drawdown could occur under Alternatives A and C. *Id.* at page 4-73.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

Comment is noted and has been considered in the EIS.

Comment:

Groundwater drawdown would also adversely affect 836 to 840 acres of woody riparian vegetation under the Proposed Action or Alternative C, or 6-56 acres under Alternative B. Woody riparian vegetation is disproportionately important to wildlife, particularly breeding birds, in arid and semi-arid areas. Significant loss of this habitat type could be compensated by habitat improvement projects elsewhere on the project area.

Wunder, Matthew; NM Dept of Game and Fish

Response:

Comment is noted and will be considered. Much of the woody vegetation around Clayton lake consists of unwanted Tamarisk; An invasive species that the BLM is trying to eradicate.

Vegetation/Botany

Comment:

The DEIS does not adequately address any reclamation issues associated with the post-mine operations and returning the site to pre-disturbance conditions. Due to the sensitive nature of the some of the biological species in the region, it is recommended that the local site soils be graded and stockpiled for reclamation purposes. This native site soil stockpile should be planted with a wheatgrass, or some other nitrogen fixing variety of vegetation suited for the geographic/physiographic/climatic attributes of the region, to minimize wind and water erosion, and also to preserve the integrity of native/local mycorrhizae as a valuable component of a living soil. This stockpiled soil would then be utilized at the end of the mining operation to reclaim the disturbed area and be used as a base to re-establish native vegetation of the region. This re-establishment of native vegetation should be conducted carefully to mimic, as closely as possible, the existing pre-disturbance vegetation scheme in the area. Any native site soils stockpiled for the purposes of reclamation should be protected from any salt/alkaline encroachment that may occur during the period of mining operations.

Thomas, Charles; NM Mining and Minerals Division

Response:

As stated in Section 2.4.5 of the Draft EIS, Intrepid has committed to following BLM guidance for reclamation, with a goal of returning the property to beneficial post-mining land uses similar to pre-project conditions (page 2-24 of the DEIS). The introduction to Table 2-9 states that BLM policy and guidelines for environmental protection would be applied as needed, depending on site-specific conditions to be determined by BLM resource specialists. See Table 2-9 for a summary of the BLM environmental requirements and Appendix B for more details. Because it is important that the reclamation measures be site-specific, the details should be determined shortly before reclamation is to begin and should be tailored to site conditions, precluding detailed discussions in the EIS.

Comment:

In Section 3.7.2. of the DEIS under gypsum wild buckwheat it states that, "Fifteen populations are known to occur in three locations in Eddy County, New Mexico". This statement is inaccurate and not in the NatureServe treatment of this endangered plant. Our review indicates that there are only three populations of gypsum wild buckwheat at three locations.

Thomas, Charles; NM Mining and Minerals Division

Response:

Due to the varying reports of population numbers from NatureServe, the text has been modified to only mention the three known locations of gypsum wild buckwheat that occur in Eddy County, New Mexico.

Vegetation/Botany

Comment:

If gypsum wild buckwheat is included a potential sensitive plant species for the project area, then Tharp's Bluestar should also be included in the DEIS. Both species occur near each other on gypsum substrates in the Black River region, which are their closest populations to the project area.

Thomas, Charles; NM Mining and Minerals Division

Response:

Based on the known locations and limited distribution of the Tharp's Bluestar, as identified by the NM Rare Plant Technical Council, it is considered unlikely the species would be found in the Project Area. The nearest location of the gypsum wild buckwheat, as identified in the data provided by the BLM, is located east of the Project Area, where there is no known occurrence of the Tharp's Bluestar.

Water Resources

Comment:

Modeling conducted by the BLM in conjunction with development of the EIS indicates that water within the Rustler Formation beneath and downgradient of previous potash operations will be incorporated into the process water stream. A review of the references provided indicates additional contaminants of concern will likely be present in the process water. NMED currently requires water quality monitoring of the injection and extraction well water, as well as monitoring of water quality within the proposed evaporation pond system. Based on the information provided, NMED intends to expand the list of analytes to incorporate those additional contaminants of concern identified by BLM. NMED will share monitoring information with BLM as necessary.

Shore, Lawrence; NM Environment Department, Ground Water Quality Bureau

Response:

Compliance with the discharge permit (DP-1681) issued by NMED-GWQB would be required.

Comment:

Section 4.3.5.2, Pages 4-25, 4-28 Comment. Intrepid respectfully suggests that the word "significantly" be removed from the statement ... "reduced groundwater flows from Nash Draw caused by project pumping may significantly reduce flow to the Pecos River" . . . The possible reduced flows from Nash Draw into the Pecos River arising under Alternative A would be negligible when compared to stream flow in the river. Stream flows in the Pecos River near Malaga are typically more than 50 cubic feet per second or more than 35,000 acre-feet per year. The average annual flow over the past 25 years is more than 75,000 acre-feet per year. In contrast, the projected reduction in groundwater discharge to Nash Draw under Alternative A is 78 gpm using the Rustler Preferred Model and is 106 gpm using the Rustler Enhanced Model. A reduction of 100 gpm is equivalent to 0.22 cubic feet per second or 160 acre-feet per year. A reduction of this magnitude is much less than 1 % of the typical river flows or the average annual river flow over the past 25 years. Given that the DEIS defines a significant impact to the Pecos River as a decrease of 1 % of the Current average annual river flows (section 4.3.3, page 4-21), the projected reduction in river flow under Alternatives A or B would be insignificant, should it even occur. The potential reduction in discharge to the Pecos River is based on conservative projections from the groundwater modeling effort, and does not account for the geologic / structural features where the Magenta outcrops in Nash Draw. Further, any discharges from the Magenta are likely lost to evaporation / infiltration rather than flowing into the Pecos River. Again, Intrepid support this analysis of apparent worst-case conditions in the DEIS.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

The Draft EIS defines a significant impact as a decrease in flow contribution to the Pecos River by more than 1 percent. The assumption does refer to current average annual flows, but the key point is that the reduction in contribution from the project area would be reduced by more than 1% compared to current contributions. This will be clarified in the Final EIS. The fact remains that modeled groundwater contributions to springs and seeps in the calibrated model would have a reduction of 64 percent and groundwater flow to Nash Draw would have a reduction of 35 percent under Alternative A. Both of these reductions in flow contributions would be significant if they occur. Using the term "may" as in "may significantly reduce flow to the Pecos" accounts for the unknowns, such as how much of this actually reaches the Pecos River due to infiltration and evaporation, as suggested in the comment.

Water Resources

Comment:

In arid environments like southeastern New Mexico (SENM), effective water management is crucial. Fresh water from surface and underground sources is at a premium and should be used prudently.

Romero, Van; New Mexico Tech

Response:

Comment is noted.

Comment:

The proposed drawdown of water in the Rustler Formation could upset the balance between the two systems and create a siphoning effect on the perched water table in the caves. Lowering or possibly totally draining the perched water table could have very serious effects on the cave systems and species dependant upon the water in the caves.

Harrington, Ken

Response:

A decline in water levels in the Rustler has the potential to affect solution cavities, and thus caves. Because most of the "naturally formed" caves and solution cavities were developed over millions of years as the climate changed in the project area and water levels declined in the Rustler, it is not anticipated that a decline in water levels in the Rustler due to the proposed action will develop new caves. Such a groundwater decline may increase the size of existing caves due to increased dissolution by precipitation that infiltrates. The introduction of water of a different chemistry results in the solution. There is a possibility that a decline in groundwater levels may affect some caves, but the overall impact is expected to be very localized. The proposed groundwater monitoring and mitigation in response to changes that may affect caves would minimize the potential for damage to cave water.

Comment:

It is difficult to determine the potential of water contamination based on information provided in the DEIS. The chance that backfill injection will contribute to groundwater contamination is highly dependent on site conditions, including mine mineralogy, site hydrogeology, backfill characteristics, and injection practices. Please provide additional information on the potential for groundwater contamination and mitigation efforts if contamination were to happen.

Smith, Rhonda; USEPA Region 6

Response:

The proposed wells to inject pregnant brine into the flood pools are not backfill injection wells that are often used to fill underground mines. Backfill injection wells usually contain a mixture of water, sand, mill tailings, or other materials that may contaminate aquifers through leaching or in fractures. For this project, the wells into the flood pools would only be injecting saline brine into the existing salt layer from which potash has been extracted. Without injecting contaminated material into the mine workings that are not located in an aquifer, the likelihood of groundwater contamination is low and therefore has not been discussed in the EIS. Compliance with the discharge permit (DP-1681) issued by NMED-GWQB would serve to minimize groundwater contamination. It should be noted that the flood pools lie below the existing potable aquifers, so leakage from the flood pools is unlikely to impact them. The injection and extraction wells will be built to class V standards with multiple casing to prevent possible contamination of the groundwater and shallow aquifers.

Water Resources

Comment:

My only comment on the Draft EIS would be that the brine from the Capitan Aquifer be considered as a potential source of water for the solution mining project as a viable alternative to brine from the Rustler Formation or fresh water from the Ogallala Aquifer. The Capitan is located adjacent to the project area and would preclude the construction cost of a pipeline to the Caprock (Ogallala Aquifer) and would preserve valuable fresh water resources for the communities of Hobbs and Lovington, New Mexico. Moreover, the Capitan Aquifer would provide the volumes of brine necessary for the solution mining project whereas the yields from the Rustler Formation may prove inadequate.

Ferguson, Daniel; Department of Energy/Carlsbad Field Office

Response:

The Capitan Aquifer lies beneath the HB In-Situ project area in T19S, R30E and T20S, R30E, mainly below the area known as Clayton Basin. The Capitan Aquifer is found within the Permian (Guadalupian) Capitan and Goat Seep limestones, as well as the forereef and backreef facies that border the main limestone reef structure. Figure 3.2-5 of the Draft EIS shows the location of the Capitan Reef and Aquifer in the project area. In the project area, the Capitan Aquifer forms an arcuate band of water-bearing limestone in northern Eddy County between the Pecos River and the Eddy County/Lea County line. The Capitan Aquifer in the project area is 10 to 14 miles wide and lies at a depth of 1,500 to 2,000 feet below ground surface. The Capitan Aquifer in the project area is about 1,500 to 2,000 feet in thickness (Hiss 1975; 1976).

Before the formation of the Pecos River, the Capitan Aquifer was an integrated flow system that was recharged in the Guadalupe Mountains and had groundwater flowing eastward and discharging near Hobbs, New Mexico. With the formation of the Pecos River in Pleistocene time, groundwater flow from the Guadalupe Mountains was intercepted by the Pecos River and thus groundwater flow east of the Pecos into the Capitan Aquifer was reduced. This area of the aquifer is upgradient of the region to the east and there is no hypothesized recharge from that direction.

There are a series of low permeability submarine canyons that bisect the reef and limit connectivity with the east and south of the aquifer. Today, the groundwater gradient in the Capitan Aquifer of northern Eddy County between the Pecos River and the Lea County line is relatively flat. The average groundwater elevation is around 3200 feet amsl. The Capitan Aquifer in this area is confined and thus artesian, but with little source of recharge and a low permeability submarine channel along the Lea County line, the groundwater flow is basically stagnant in northern Eddy County east of the Pecos River.

Aquifer tests report by Mercer (1983) and also Richey and Wells (1984) have shown that the range in hydraulic conductivity for the Capitan Aquifer in northern Eddy County east of the Pecos River is between 1-25 feet/day, with most test values falling between 2.4 and 16 feet/day. The estimated average hydraulic conductivity is 5.0 feet/day. Oil well tests reported for the Capitan by Huff (1997) show values generally in the range of 1-5 millidarcies with the highest value reported being 18 millidarcies. Test wells analyzed by Hiss yielded on average less than 50 gallons per minute (Hiss 1976).

Overall, the permeability of the Capitan Aquifer in the project area is rather low, suggesting low well yields for water supply. This contrasts with the eastern side of the aquifer where higher yields have been documented in locations such as the Jal well field. There are 30 salt water injection wells injecting into or near the Capitan Aquifer. The wells possibly inject a variety of contaminants, which could include heavy metals. The effect of these wells on the water quality in the aquifer is unknown and would need to be analyzed before the water could be used for industrial projects. The lack of information on the effects of the injection wells creates uncertainty as to the viability of the water quality for long term usage. Acquiring the information needed to evaluate the Capitan Aquifer for the HB project would be a time-consuming and very expensive undertaking. It would require selecting

Water Resources

locations, drilling multiple test wells, performing numerous pump tests, doing multiple chemical analyses, and developing a water model of the aquifer. These processes would likely take many months and would be expensive with a low probability success given the existing data. The results of such a study are uncertain and may not provide any additional information for analyzing this aquifer and any potential adverse impacts or mitigation of project impacts on the human environment.

In summary, existing data suggest that it is unlikely that the Capitan Aquifer would be suitable to supply the water to this project. Groundwater is available in the Capitan Aquifer beneath the project area, mainly below Clayton Basin. However, the permeability of the Capitan Aquifer is low in this area, the groundwater flow is stagnant due to little recharge, and the low-permeability submarine channel along the Lea County line inhibits flow from the east. Industrial wells attempting to use the Capitan Aquifer water in this area would likely be deep wells with low yields. In addition, there are uncertainties regarding water quality due to the possible introduction of contaminants from the salt water injection wells into this aquifer. Gathering the needed information to evaluate the aquifer for this project would likely take many months and cost an exorbitant amount of money. The applicant does not have water rights in the Capitan and did not propose using this aquifer to supply project water.

For these reasons, in addition to the fact that the use of this aquifer did not come up during public scoping, the Capitan Aquifer was not considered as an alternative water supply in the EIS.

References:

Hiss, W.L. 1976. Structure of the Permian Guadalupian Capitan Aquifer, southeastern New Mexico and west Texas. New Mexico Bur. Mines and Mineral Resources Resource Map 6.

Hiss, W.L. 1975. Thickness of the Permian Guadalupian Capitan Aquifer, southeastern New Mexico and west Texas. New Mexico Bur. Mines and Mineral Resources Resource Map 5.

Huff, G.E. 1997. Summary of Available Hydrogeologic Data collected between 1973 and 1995 and information on all Permeability Data and Aquifer Tests for the Capitan Aquifer, Eddy and Lea Counties, New Mexico. USGS Open File Report 87-370.

Mercer, J.W. 1983. Geohydrology of the Proposed Waste Isolation Pilot Plant, Los Medanos Area, southeastern New Mexico. USGS Open File Report 83-4016.

Richey, S.F. and J.G. Wells 1984. Geohydrology of the Delaware Basin and Vicinity, Texas and New Mexico. USGS Open File Report 84-4077.

Comment:

The use of only 3 groundwater monitoring wells seems insufficient to monitor potential leakage, especially considering that these monitoring wells are between one and three miles distant from the nearest flood pool.

Thomas, Charles; NM Mining and Minerals Division

Response:

The proposed monitoring well locations are based on the flood design elevations in relation to other inactive mine workings not intended to be flooded. The locations of these wells was evaluated as part of the NMED Discharge Permit DP-1681. The flood pools lie well below the existing potable aquifers making contamination from leakage is unlikely.

Water Resources

Comment:

I support Alternative B as presented in the Draft EIS. The use of Rustler water for the HB Project is most appropriate due to its salinity and proximity to the HB Project area. If the Rustler water wells cannot produce all of the needed water, the Draft EIS indicates that Intrepid has existing Caprock water rights and can draw from that aquifer to meet the water needs for the HB Project. I understand that Intrepid's water conservation programs at its plants and its Langbeinite Recovery Improvement Project will reduce its existing Caprock water usage. For these reasons, Alternative B, with its increased flexibility, seems the most sensible alternative for the HB Project.

Brown, Cathryn; New Mexico State House

Response:

Comment is noted and will be considered.

Comment:

One alternative to consider as part of the DEIS would be the installation of a leak detection system directly into the flood pool complex, as part of the liner system.

Thomas, Charles; NM Mining and Minerals Division

Response:

A liner cannot be installed under the flood pool because that would require equipment to enter the inactive mines and excavate in unsafe conditions. Note that the injectate would be composed of brine that would be injected into an existing salt formation of similar composition. To ensure that injectate does not enter the downstream inactive mine workings, three monitoring/extraction wells would be installed to detect leaks and extract brine that may flow out of the flood pools before it reaches active mines.

Comment:

NMT recommends that a comprehensive study of the aquifers, to provide water to Intrepid Potash, be conducted prior to any commitment being made regarding their use.

Romero, Van; New Mexico Tech

Response:

Comment is noted. The models used for impact analysis were developed using the best available data derived from the many studies of the Delaware Basin hydrogeology that have been reported over the past 40 years. If the project is approved, groundwater monitoring will add to that information and will allow for adjustments to water usage through adaptive management, if necessary. The Caprock aquifer has been analyzed by the Office of the State Engineer as a prerequisite for the granting of water permits.

Water Resources

Comment:

EPA is concerned about groundwater use by all sources in the general project area. Intrepid's proposed groundwater use will have a significant impact on the area's aquifers, especially the Rustler Formation and possibly the Caprock Formation.

Smith, Rhonda; USEPA Region 6

Response:

Comment is noted and has been considered in the EIS.

Comment:

Due to our water conservation program and process improvements at our East Plant, we expect to reduce our use of Caprock water by 700 - 900 gallons per minute by the end of the year. As a result, if we need to use Caprock water for the HB Project, we expect our Caprock water conservation efforts to significantly offset any increased use for the HB Project.

Huett, Philip

Response:

Updates to the change in water usage will be considered in the Final EIS.

Comment:

The 3 monitoring wells are located south of flood pools HB North and HB Crescent and east of flood pools HB South and HB Eddy, yet Figure 3.3-7 indicates that the potentiometric flow direction of groundwater is toward the west and southwest. This means that the 3 monitoring wells are located up-gradient and cross-gradient of the flood pools; no wells downgradient of the flood pools appear proposed or present. This appears to be a major flaw in the methodology of detecting and controlling leakage from the flood pools.

Thomas, Charles; NM Mining and Minerals Division

Response:

The potentiometric flow directions in Figure 3.3-7 are for the Rustler Formation. The proposed monitoring wells are to monitor for potential leaks during the in-situ leaching of the mine workings, which are in the Salado Formation. The Salado is not an aquifer, and as such has no groundwater flow directions. The proposed monitor well locations are based on the flood pool design elevations and locations, primarily to ensure that the brine in the flood pools does not overflow into other inactive workings not intended as a target for in-situ solution mining. The flood pools are located well below the existing potable aquifers. The brine solution is unlikely to migrate outside of the pools and would be unable to contaminate the fresh water aquifers if it did.

Water Resources

Comment:

Alternatives to utilizing high quality water sources in the solution mining process should be strongly encouraged. Solution mining using water sources that qualify as drinking water may not be the most appropriate use of an already scarce supply when there exists in the area a ready supply of brackish water and other low quality aquifers that have largely already been developed and are currently already appropriated for industrial use. The proposal should explain the reasons for the use of the higher quality water sources and the economic and other impacts of using a lower quality water source.

Thomas, Charles; NM Mining and Minerals Division

Response:

Comment is noted and will be considered. The Draft EIS explains that Alternative B, with its proposed use of potable water, was developed primarily to evaluate the effects of supplementing the Rustler water due to the conclusions of the water model that the Rustler wells may not have adequate yield to supply all water needed for the flood pools. The Office of the State Engineer has already granted Intrepid the right to use Caprock water in its mining operations.

Wildlife

Comment:

Section 4.2.8.2, Page 4-15 Comment. The third bullet in this section, second line, states implementation of a plan should include a biologic inventory of cave species before groundwater pumping begins. Intrepid is extremely concerned with this requirement as the cave locations are not known by Intrepid and the area has already been subject to significant past mining and oil and gas impacts. This requirement has significant potential to delay the project. Additionally, karst and cave features may not contain water, and groundwater pumping may not affect the water level in the caves. We respectfully recommend that this requirement be removed. Intrepid has committed to working with the BLM to install groundwater monitoring wells adjacent to the critical karst areas as part of the groundwater monitoring program and Intrepid believes that monitoring of the water levels in the known cave and karst areas will provide adequate protection of biologic species that may be in the caves and karsts.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

This mitigation measure is included as a recommendation that would enable BLM to monitor and apply adaptive management to minimize adverse impacts to important caves. If this mitigation measure is selected in the Record of Decision, BLM will work with Intrepid to identify the locations of the important caves in order to determine which should be surveyed and monitored. At this stage, this mitigation measure is a recommendation by the resource specialist and should be left in the EIS for consideration by the decision-maker, who can choose to modify or exclude this mitigation measure as part of the Record of Decision.

Comment:

Waterfowl protection: Intrepid's solar evaporation pond design incorporates features that have been demonstrated to be unattractive to waterfowl. However, Intrepid will provide and implement an active monitoring and hazing program plan to further ensure waterfowl protection. This plan should be submitted by the end of the summer.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

New information received in time will be incorporated into the Final EIS.

Comment:

Migratory bird nesting: If a favorable Record of Decision (ROD) is issued by the BLM based on the current anticipated schedule for ROD issuance, construction would likely commence shortly before or about the same time as the migratory bird nesting season starts and would continue through the nesting season (approximately March 1 through August 31). Intrepid would commit to surveying any area proposed to be cleared for bird nesting activity and create a reasonable buffer area around the nesting site (during the nesting season) that would not be cleared until the nesting site was no longer used. It is Intrepid's understanding that this is an allowed mitigation action by BLM so that clearing activities can continue during the bird nesting season. Intrepid respectfully notes that prohibition of clearing during nesting season would significantly impact the timing for potash production from the HB Project and would have a negative economic impact on Intrepid.

Ryan, Kevin; Intrepid Potash, Inc.

Response:

This will be added as a mitigation measure in the Wildlife section of the Final EIS.

Wildlife

Comment:

The presence of the water affects the humidity levels of the caves. Some species of bats require a high humidity level to use a cave for a nursery or a roost.

Harrington, Ken

Response:

Comment is noted and will be considered.

Comment:

Drawdown would cause a maximum 64% reduction in surface seep/spring flow under the Proposed Action or Alternative C and a maximum 31% reduction under Alternative B. Any reduction in surface wildlife water availability should be mitigated by providing supplemental clean water, potentially from precipitation-fed drinkers. Water from drinkers should be available year long and to all classes of wildlife, and be fenced to prevent trampling by livestock. If steep-sided, the drinkers should also have escape ramps installed and maintained to reduce incidental losses to wildlife attracted to the water source.

Wunder, Matthew; NM Dept of Game and Fish

Response:

There are only 3 wildlife watering facilities in or near the project area, all of which are supplied by precipitation. Therefore, the drawdown would not affect wildlife water availability. There are no fresh water springs or seeps in the project area. The known water bodies are highly saline (30,000+ TDS) and are not generally used by wildlife.

Comment:

The water, to my knowledge, has not been examined for any living microorganisms or macro organisms, but I would be surprised if none existed.

Belski, Dave

Response:

The biological inventory of cave species recommended as a mitigation measure in Section 4.2.8.2 would document the species that rely on caves and whether there is water there. This information would be used to determine whether further monitoring and mitigation are needed if the project is approved.

Wildlife

Comment:

Floatovoltaics may be a feasible solution to the problem of waterfowl landing, resting, frequenting, and attempting to feed on the large waste water ponds which have tremendously high salt contents. These ponds with high salt concentrations are not healthy for the waterfowl that are attracted to them.

Floatovoltaics is a relatively new concept in which photovoltaic arrays (PVA's) are densely packed over water environments on pontoon platforms that float. With a sufficient density of PVA's, the underlying waste water pond would not look/appear to be so attractive from the migrating waterfowl looking for a water source. This technology could also be utilized with netting over the surface of the water. The entire system could then raise/lower depending upon the water levels in the waste water ponds.

The benefit of the floatovoltaic system would be two-fold; it would not only serve to decrease the impacts of anthropogenic development on the migrating waterfowl and other avian species, but also would serve to supply energy either locally to the mine operations, or regionally through the power grid, to either save the mining company money, or perhaps even generate income for the mining corporation. Accordingly, MMD would recommend that the floatovoltaic system should be evaluated appropriately in the DEIS.

Thomas, Charles; NM Mining and Minerals Division

Response:

The primary purpose of a Floatovoltaic® system (by Thompson Technology Industries, Inc.) is to provide a place for establishing a photovoltaic system to generate electricity and to reduce direct sunlight on the water body. Because this system would reduce evaporation by covering the water surface, it would conflict with the primary purpose of the evaporation ponds. Other mitigation measures, proposed in Section 4.8.8 on page 4-79 of the Draft EIS, that were recommended by a representative of the USFWS, would be more effective. A statement calling for monitoring the effectiveness of any mitigation measures and the use of adaptive management to make changes as needed will be incorporated into the Wildlife Mitigation Measures section (Section 4.8.8 in DEIS) of the Final EIS.

Comment:

As stated in the DEIS, the evaporation ponds could pose a threat to avian migratory species. Pursuant to the MBTA, EPA encourages BLM to coordinate mitigation measures to protect migratory birds in relation to the proposed evaporation ponds with the U.S. Fish and Wildlife Service and the New Mexico Department of Game and Fish.

Smith, Rhonda; USEPA Region 6

Response:

The list of potential mitigation measures included in the DEIS, Section 4.8.8, page 4-79, was developed based on communication with a representative of the USFWS (Murphy 2010). Monitoring may result in changes to the mitigation measures as effectiveness is evaluated.

Wildlife

Comment:

Groundwater drawdown would also adversely affect 836 to 840 acres of woody riparian vegetation under the Proposed Action or Alternative C, or 656 acres under Alternative B. Woody riparian vegetation is disproportionately important to wildlife, particularly breeding birds, in arid and semi-arid areas. Significant loss of this habitat type could be compensated by habitat improvement projects elsewhere on the project area.

Wunder, Matthew; NM Dept of Game and Fish

Response:

Comment is noted and will be considered. Much of the woody vegetation around Clayton lake consists of unwanted Tamarisk; An invasive species that the BLM is trying to eradicate.

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